

ARIQUEMES: SETTLEMENT AND CLASS
IN A BRAZILIAN FRONTIER TOWN

By

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by

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In Memory of
Cleo Glascock

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Abstract of Dissertation Presented to the Graduate School
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The site of this study is Ariquemes, a rapidly growing town in Rondonia, Brazil. Pioneer settlement in this region and throughout Amazonia has often been promoted as an alternative to agrarian reform. The fact that frontier expansion has often led to forms of economic production and growth that impede, rather than promote, such reform has been well documented by case studies of frontier communities in Amazonia. The present research focuses on the ecological and economic constraints faced by small-farm settlers within the context of Brazilian social structure. Implicit biases in development policy and the relative economic and political status of different groups within the local community prevent substantial changes in the structure of agrarian society. While poor migrants acquire land, legal title, and even rural credit, they are limited by structural factors beyond their control. The small-scale producer is consequently forced to

adopt patterns of land use which are ecologically unsound and non-sustainable in the long term. The small-farm pioneers, who rely primarily on family labor to produce subsistence crops and a small surplus of coffee, are rarely able to generate an income above subsistence level and often must seek wage labor off the farm. Their response to ecological and technological problems of tropical agriculture is conditioned by the costs of reproducing the household, the costs of appropriate technology, and the limited economic rewards accruing to small-scale producers.

Other settlers, however, have received or purchased larger farms and depend primarily on hired labor. They have managed to obtain a greater share of development resources and command greater influence in political and bureaucratic institutions which contribute to the definition of policy and regulate its implementation. Furthermore, the expansion and consolidation of capitalist forms of production are promoted by the continuing and explosive growth of the landless population entering Rondonia. This study concludes that settlement has failed to address fundamental economic and political obstacles to agrarian reform that are rooted in Brazilian social structure.

CHAPTER ONE INTRODUCTION

Migration to the Brazilian Amazon has brought diverse and irreversible changes to this region which comprises 60 percent of the national territory. Perhaps as many as 760,000 individuals settled in the Brazilian Amazon between 1970 and 1980 alone (Wood and Wilson 1984:148). Since the 1950s, the government of Brazil has, for various motives--geopolitical, economic, and social--invested in ambitious road construction projects to integrate this region with the rest of Brazil. The government has also sponsored a massive colonization effort and distributed homesteads to landless migrants from more densely populated rural areas.

Studies of this demographic process suggest that the occupation of the Amazon is primarily the product of "push" factors in the regions of origin rather than a consequence of "pull" factors generated by new highways, access to land, and government programs (Henriques 1982:23; Lisansky 1980:335). Economic, ecological, technological, political, and other factors in the regions of origin force individuals to "choose" migration to the frontier as a means of reproducing the small-farm household. According to Sawyer (1984:190): "most settlement in Amazonia can be considered spontaneous if we use this term to refer to the lack of correspondence with

the most relevant government policies, rather than to the motives and will of the individual migrant." His data strongly support this conclusion. While the government settled only 24,242 migrant families in official colonization projects by 1978, over 600,000 families settled in the region between 1950 and 1980.

Official colonization can claim but a small part in the overall settlement of the Amazon. However, the government played a significant role in terms of the distribution of land (and capital) to large-scale enterprise. This action contributed to the "closing" of the frontier. Land on the frontier was appropriated on a vast scale by private capital which reduced the amount of land available for pioneer settlement by landless migrant families (cf. Schmink 1981). Sawyer adds that "even though the state distributed a limited number of small lots, the political balance was undoubtedly in favor of large properties and against the mass of settlers. Official colonization should be viewed more as a conquest of the settlers than as a response to incentives offered by the state or as a necessity of capitalist expansion" (Sawyer 1984:200). One of the most dynamic areas of settlement in the Brazilian Amazon is the state of Rondonia. Colonization in this region is perhaps best described in terms of such a "conquest".

The state of Rondonia (see Figure 1) is located in the northwest of Brazil.¹ Bordering with Bolivia, Acre, Amazonas, and Mato Grosso, it encompasses an area of 243,044

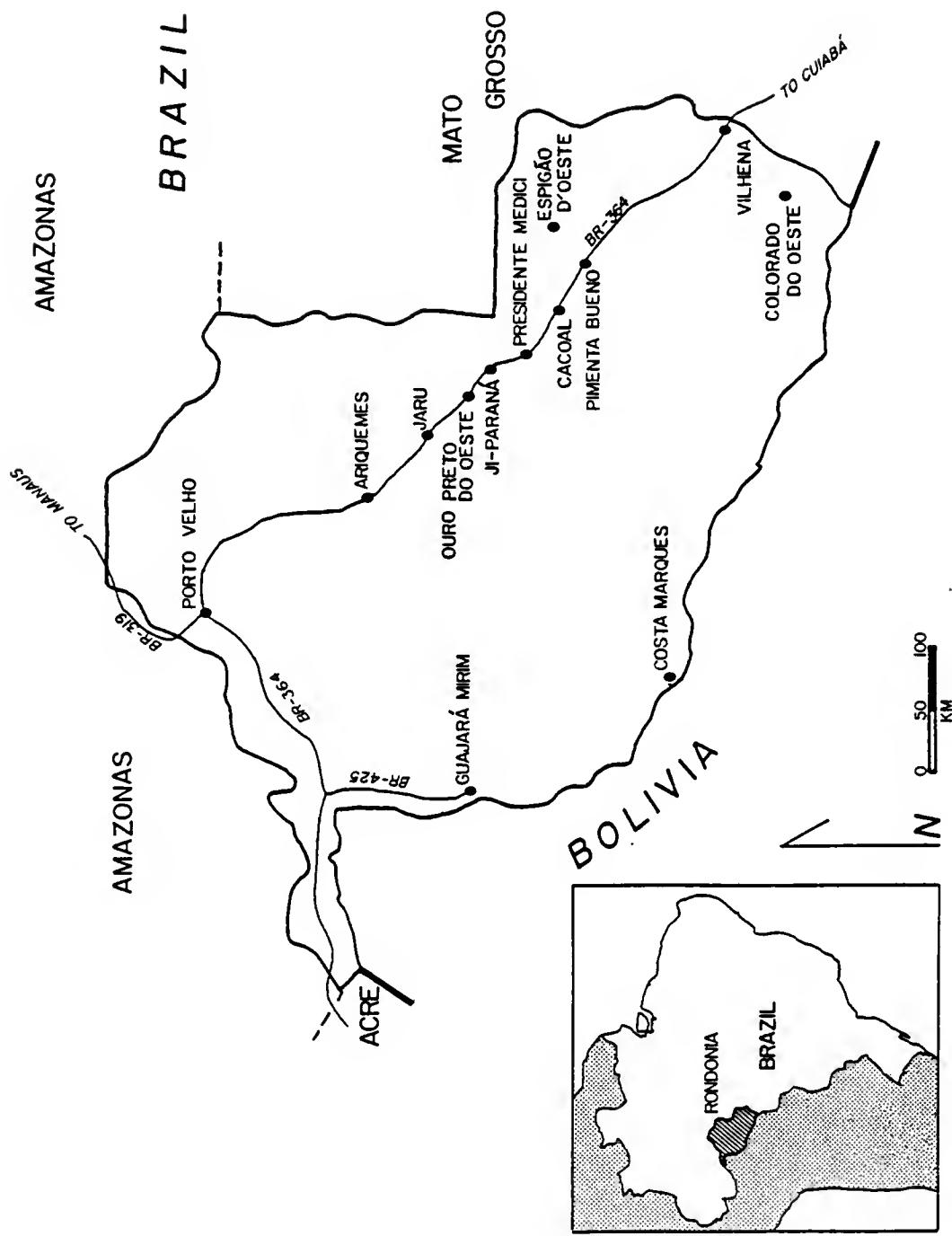


Figure 1
Map of Rondonia

square kilometers. Total population in 1980 was approximately 490,000 inhabitants and population density was 2.03 persons per square kilometer. In June of 1984, Rondonia had a population exceeding 870,000 inhabitants and a population density of approximately 3.6 persons per square kilometer.² This signifies a near doubling of the population in less than five years.

Rondonia is traversed by the BR-364 highway which cuts across the northeastern half of the state from Porto Velho in the northwest to Vilhena on the eastern perimeter. Heading northwest from Vilhena to Porto Velho the highway crosses land that is fairly undulated. The hills coincide with the northern edge of the Brazilian planalto which descends to meet the Amazon basin. Approximately 200 kilometers south of Porto Velho, nearing Ariquemes, the landscape begins to level out.

Rondonia's vegetation varies but the greater part, 78 percent, is upland wet forest. The remainder is, in more or less equal parts, wet varzea forest, cerrado, and campo grassland. Average annual rainfall is between 1,800 to 2,000 mm in the easternmost municipality, Vilhena, to 2,200 mm in the central and western part of the state, which includes Ariquemes. Temperatures range between 21 and 27 degrees Celcius. The wet and dry seasons occur, respectively, from October to April, and June to August. Rainfall is intermediate during the months of September and May (World Bank 1981a:38).

One often hears that Rondonia is favored with rather good soils in comparison to other parts of Amazonia. My own impression, taken from colleagues, and from Brazilian media coverage of colonization in Rondonia, is that the amount of better quality soils is highly exaggerated. This is even more clear when one considers their potential for agriculture within a broader economic context that includes the costs of adequate soil management and conservation technology. The soils of Rondonia, even the better "terra roxa" soils, are no less vulnerable to erosion and leaching than other Amazonian soils--once the protective canopy and closed nutrient cycle of the rainforest is broken. Satellite surveys conducted by RADAMBRASIL indicate that only 9 percent of Rondonia's soils are the much publicized "terra roxa" or eutrophic podsols of high fertility. Sixty percent of the soils have moderate fertility. These are dystrophic soils, deep latosols that are either clayey or loamey in texture and which necessitate liming and fertilizers for sustained production. Seven percent of the soils are classified as "marginal". These are also dystrophic soils, but are sandy or concretionary. They cannot sustain production without liming and their texture, moreover, is not amenable to the use of fertilizers. Nearly 23 percent of the soils are judged to be unsuitable for known uses (World Bank 1981a:58).

Ariquemes, the last of seven colonization areas opened by the National Institute for Colonization and Agrarian Reform (INCRA) in Rondonia during the 1970s,³ lies about

200 kilometers southeast of Porto Velho (see Figure 2). Official colonization in Ariquemes began in 1975. By 1981, over 5,000 small-farm land grants, approximately 100 hectares in size, had been distributed to poor migrants from various regions of Brazil. The colonists primarily came from the states of Paraná and Mato Grosso, Minas Gerais, and other states of the Center-South, Center-West and South. Northeasterners were much fewer in numbers but many of those who arrived from previous locations in the aforementioned states had previously migrated to those areas from the Northeast.

The Research Problem

This case study focuses on these small-farm settlers in Ariquemes' official small-farm colonization area called the Marechal project. They must, however, be viewed within the context defined by their social, political, economic, and physical environment. Therefore, the landowners of two neighboring projects, called Burareiro and Licitação, also fall within the scope of this study. The Burareiro project was composed of about 800 medium sized land grants of 200 to 300 hectares in size. To simplify discussion, the Licitação project will be divided into two parts which I shall call Theobroma, an area of about 200 parcels of 500 hectares each, and Seringal Preto, an area of over 100 tracts of 1000 hectares each. The Licitação area was sold rather cheaply to private investors. Outside of the INCRA projects, yet still in the vicinity of Ariquemes, were

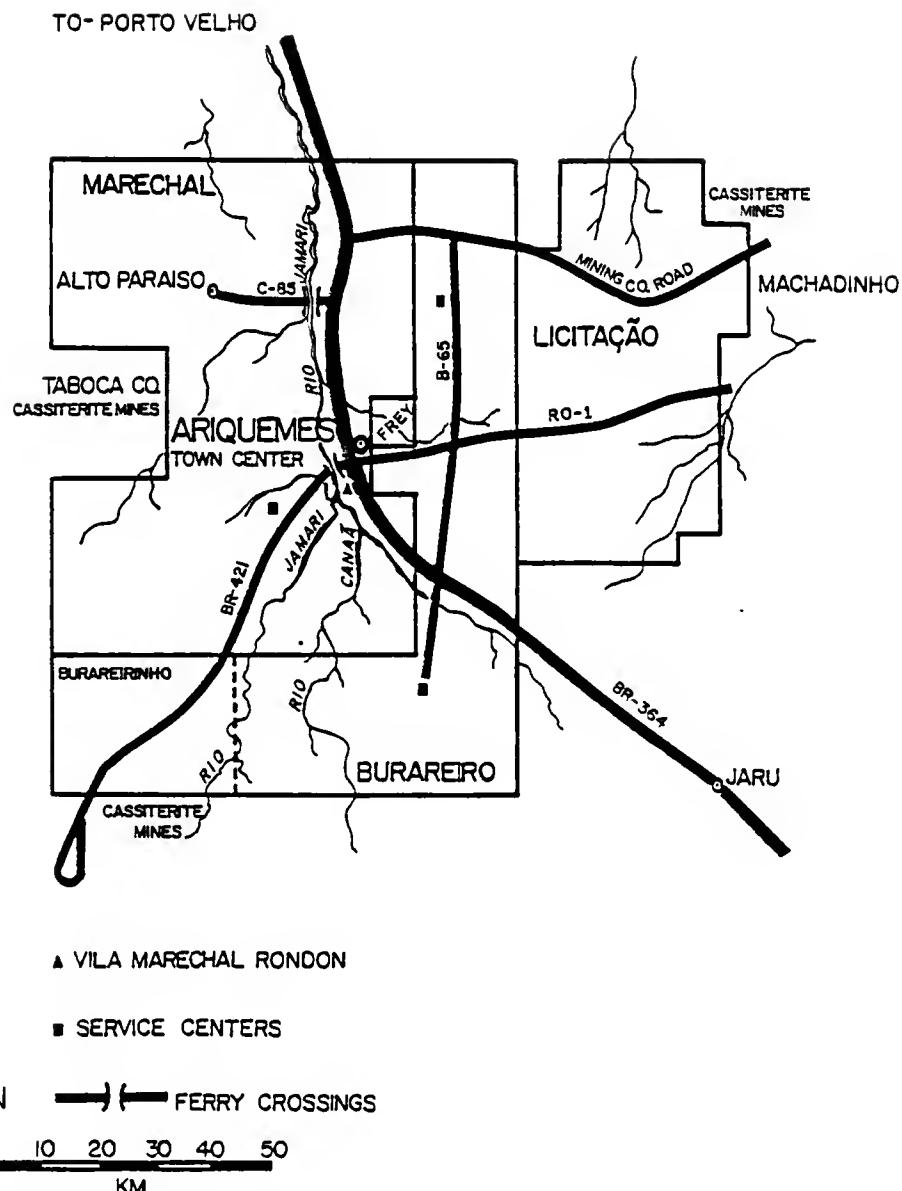


Figure 2
Map of Ariquemes

a small number of plantations and ranches which exceeded 1000 hectares in size. They, too, must be considered, as well as the nature and functions of the town center.

The landowners of the various project areas were subsidized by government programs in different ways. The Marechal project farmers received credit to plant coffee and food crops. The Burareiro and Theobroma landowners received larger amounts of credit to plant cacao. Seringal Preto landowners were eligible for subsidized credit to plant rubber. The owners of properties outside of these areas received credit to plant some or all of the above crops but in several cases the primary economic activity was cattle ranching.

The distribution of wealth and power in Ariquemes paralleled, but was not necessarily a consequence of, the hierarchy established in the distribution of land. Several factors were involved in the creation and maintenance of a stratified class structure in the community. These factors will be considered later in detail. However, I will suggest here that this particular "model" of land and credit distribution set down the foundations of inequalities that grew sharper over time.

The related processes of small-farm settlement, capital accumulation, government development policy, and policy implementation only become coherent within the context of class structure in local, regional, and national spheres of class interaction. Such a focus permits the investigation of

local and extra-local factors relevant to state intervention and social change.

Based on fourteen months of field research, this dissertation is a study of fundamental issues related to directed colonization. It is a study of the frontier as well as a study of economic development. The case of Ariquemes provides a focal point for the analysis of various processes, internal and external, which affect rural settlement and economic growth.

This is not a study of the "success or failure" of colonists in State directed colonization projects. There is a thorny problem in making such a study, viz. what is success and what is failure? The difficulty presented by the use of such concepts is more than a matter of semantics. Judging success or failure is a matter of perspective. I do not believe it is correct to say, for example, that a program has failed because it has not met its stated goals. Policies may have unstated or implicit goals which are indeed achieved even if stated goals are not. To accept the explicit goals of government policy as the criteria for making judgements of success or failure is not, by any means, an objective viewpoint from which to attack the problem (Charles Wood, personal communication). The same outcome of a given program may be viewed as a triumph for some and a setback for others. This is, as we shall see, clearly the case in Rondonia, if one examines the phenomenon of frontier occupation from the perspective of directed settlement goals. While the

settlement of landless families in Amazonia has been touted by the State as an effort to promote agrarian reform, the real picture of land distribution and the distribution of development resources (financing, tax credits, and other fiscal incentives) suggests a quite different set of priorities. If one is to discuss success or failure the question is: success or failure for whom?

Another problem with the discussion of success or failure arises when one considers that value judgements or political ideologies are inevitably attached to the notion of success. Can one call settlement a success if the settlers are owners of the land but are only able to maintain a level of bare subsistence? Are settlers successful only when they manage to produce a surplus? Does the successful settler own a radio? Or must he own a color television? Who will decide and how?

Time is also a problem in considering success or failure. Even if a given level of material well being is defined as success, the problem remains as to when to measure the phenomenon in question. When is it possible to declare that colonization has succeeded failed--after 10 years, 15 years, or a generation? Some farmers in Rondonia were doing quite well in 1984 and had achieved a standard of living similar to that of the lower middle class in Brazil's large cities. But the question remains as to whether or not their good fortune will continue. The fertility of even the best land is not inexhaustible. After a time the costs of

production will rise with the need for industrial inputs. If, in ten years time, such farmers were to leave the frontier or sell their lands to open up small shops in town centers, could one say that they failed or that colonization was a failure? Any answer will be a subjective one.

There are many other theoretical and methodological difficulties that arise in attempting to judge success or failure but perhaps the most important relates to the problem of blame. If one considers success or failure at the level of the individual colonist this may easily pave the way for "blaming the victim" (cf. Wood and Schmink 1979; Davis 1977; Bodley 1982). Focusing on the shortcomings of individuals may disguise many larger and more important issues of a structural nature..

Rather than discuss success or failure it is perhaps more productive to observe what there is to be observed and reserve such judgements. It may prove more interesting, and more informative for policy makers, to examine real opportunities for agricultural production that are or are not available to different farmers and entrepreneurs on the frontier.

Accordingly, the central focus of this study is not the individual farmer per se but the broader social environment: a community of diversified producers and investors. The dissertation will consider the following questions, particularly as they relate to the small-scale producer:

What are the major obstacles to agricultural production and commodity circulation for small-scale farmers? How do these farmers and entrepreneurs respond to these problems?

What are the social and environmental consequences of the particular "model" of colonization adopted in Ariquemes?

What are the primary mechanisms of class differentiation and class organization?

How are institutions, policies, and resources of State intervention integrated into this differentiated community? Who benefits from these institutions, policies and resources? Are development resources and the institutions that deliver them manipulated by particular interest groups? To what extent is development planning and implementation at the local level integrated with or affected by broader economic policies? Are these institutions, policies, and resources equipped to direct, or bring order to, the occupation and development process?

These are the core questions which guided the field research. The discussion will also pursue other problems related to these questions such as class conflict, migration rates, urban growth, urban-rural integration, political development, inter-regional economic relations, and the formulation of development policy.

Theoretical Discussion

The analysis of small-farm households as a class of farmers among other social classes informs the discussion of

the development process on the frontier. The basic material and structural elements of social organization--forms of production and reproduction and the distribution of resources and power--provide, to borrow a term from Harris (1979), the most "parsimonious" framework for linking processes observed on the frontier to larger ongoing processes within Brazilian society as a whole.

A number of scholars adopt a rather different perspective. The focus of such studies is either the individual colonist, his cultural heritage, and his expectations or the individual colonist, the environment, and adaptive response. They share in common an emphasis on the individual and choice. Although their conclusions in regard to the dynamics of colonization and their recommendations for policy often differ, they share similar limitations in terms of their incorporation and integration of micro-level and macro-level constraints.

Crist and Nissly, for example, draw the following conclusions from a study of Andean migration to the lowland rainforest of Amazonia:

The crux of the whole problem of settlements is to convince pioneers that by accepting the winds of change, thus moving into new areas and with new technology, they will alter the pattern of their daily lives so to be able to live a more abundant life, spiritually as well as materially. (Crist and Nissly 1973:4 cited in Lisansky 1980:27)

The authors make it quite clear that, in their view, the key element in the process of colonization is the mentality or "cultural baggage" of the pioneer. The colonist must be

"convinced" to abandon old ways of thinking and adopt a new and "modernized" outlook which is more appropriate to a changing world.⁴ There is little room within such a perspective to deal with environmental and structural constraints that may limit the farmer's ability to keep up with the so-called "winds of change". In fact, "winds of change" such as the modernization of agriculture can in themselves be viewed as contradictory to small-farm settlement by leading directly to the demise of small-scale production and the concentration of land (cf. Vollweiler 1979).

Other scholars have incorporated environmental factors into their conceptual framework but their focus remains primarily at the level of the individual colonist or emphasizes ecological potential to the exclusion of structural constraints (cf. Leite and Furley 1985; Smith 1981, 1982, Condurú 1974, Moran 1981). Moran (1981) best exemplifies a human ecological approach. His important work on the Transamazon Highway shows what such an approach can offer, but also what it cannot.

Moran (1981) contributes a detailed description of small-farm settlement. His analysis takes into account a broad range of economic, environmental, and institutional (bureaucratic) factors which limit the farmer's options and determine the formulation of rational, adaptive strategies. Moran gives thorough consideration to soils, climate, health, transport, storage, communications, markets, and government

planning. But while he identifies differentiation among the colonists and examines a series of factors which might explain the differential performance among them, a cultural ecological perspective cannot readily provide an analysis of the consequences of that differentiation. That is, while he examines such factors as education, region of origin, management experience, savings, and others, at the household level, he does not go beyond the individual household to examine the social or political consequences of the important differences he discovers among the colonists. Moran offers us an excellent description of diverse adaptive behaviors--but one wonders still about the dynamics of an obviously stratified frontier society.

However, in contrast to Crist and Nissly's "modernization" approach, Moran does not end in attributing blame for failure to the colonists themselves. He blames the bureaucracy. The centralized and authoritarian character of the Brazilian bureaucracy, in his view, makes it less sensitive to micro-level variation. In other words, planners are incapable of designing policy to respond to different conditions in different localities. "The question", in Moran's words, "which is central to the future of the Amazon region is whether or not the structure of the Brazilian bureaucracy is capable of adjusting its policies to include inputs from specific sites to optimize productivity and conservation per site" (Moran 1981:227). I would re-formulate Moran's conclusion to state that the question is

whether or not the Brazilian bureaucracy is capable of becoming sensitive to, and responding to, the needs of the rural poor. Is inadequate policy, from the colonists' point of view, the result of a rigid bureaucracy or is it a predictable consequence of a rigid class structure with well defined priorities that do not include the Transamazon farmers? The problem of "insensitivity" to diversity at the local level may be, as Moran states, "general to all bureaucratic structures" (1981:226). But the obstacles to colonization and agrarian reform also lie in the very nature of contemporary Brazilian society which is inevitably expressed in the nature and direction of development policy in the Amazon.

Several authors have examined frontier society and the role of the State in terms of changing forms of production. They have conceptualized the historical process of frontier expansion in terms of discrete, though often overlapping stages. The changes which occur between stages signal the progressive advance of capitalism on the frontier.

Generally, the economic progression is from extractive industry to cultivation and/or ranching though in many instances various forms of resource exploitation have occurred simultaneously. Extractive economies of rubber, brazil nut, and mineral resources in the Amazon are temporary and have tended to preclude settlement. They also tend to undermine their own foundations due to the depletion of resources and diminishing marginal returns (Bunker 1982).

The agricultural phase of frontier expansion usually begins with the spontaneous migration of squatters who clear the land to produce for subsistence. Martins (1975) has distinguished this phase as the "expansion front" as opposed to the "pioneer front", which is characterized by the production of commodities and the growth of a market for land. Foweraker (1981) makes a similar distinction between what he calls non- and pre-capitalist stages, and extends the framework to include a third stage characterized by fully capitalist production. (Wood 1983; cf. Velho 1972 and Katzman 1976).

These stages are defined by changes in the nature of exploitation and related changes in social relations which, over time, tend towards greater capitalization in agriculture, the dispossession of small-farm owners, and the concentration of land and other resources. Various mechanisms, including law, bureaucracy, and violence, participate in the transformation of social relations from one stage to the next (Foweraker 1981).

As Wood (1983:263) has pointed out, the employment of stage concepts, while bringing order to a complex phenomenon, "is premised on a dualist conception of social structure, a factor that ultimately renders it insensitive to some of the principal mechanisms by which change occurs." On the whole, empirical observation of the agrarian sector in Latin America has led many to reject a perspective which assumes that in every instance capitalism will eradicate all other forms of

production (Miró and Rodriguez 1982).⁵ A conceptual framework that permits a more complete analysis of economic and social change would focus on the co-existence of diverse forms of production and the possibility of significant and diverse relationships between them (cf. Smith 1984; Heyning 1982; Miró and Rodriguez 1982). The relationships between capitalists and non-capitalists, for example, may vary in response to such factors as the market, labor supply and state intervention (Wood 1983).

Directed settlement in Ariquemes could be characterized as an attempt to install, simultaneously, several forms of production through mechanisms of the State. The State, then, becomes a key actor in the process of establishing various forms of production on the frontier.

The literature on the role of the State in frontier expansion generally treats the State, which acts through policies carried out by numerous government agencies, as an ally of private capital. This relationship is most clearly expressed by the concept of mediation (Foweraker 1981) which attempts to describe the way in which conflicts of interest--between landowners and squatters, for example--are resolved by mechanisms of the State. Schmink (1981) has argued that GETAT, (Grupo Executivo de Terras do Araguaia-Tocantins), a special branch of the Brazilian military which has often appropriated and redistributed land to the peasantry, mediates the struggle for land and

functions to defuse social tensions which threaten the regime of private property (cf. Martins 1984; Almeida 1980, 1981).

The State and development policy for the Amazon have also been viewed as responsive to pressures from powerful interest groups such as the Amazon Entrepreneurs' Association, an organization of ranchers and other wealthy investors (Pompermayer 1979, 1984). In this sense the state mediates to advance and protect private interests, particularly those of groups with greater influence within the State's legislative, juridical, and bureaucratic apparatus. Many scholars have dealt with the problem of the State and private capital (Martins 1980; Ianni 1978; Pinto 1980; Silva 1982; Velho 1976; Sorj 1980; Hebette and Azevedo 1979, 1982) examining various aspects of this relationship that has successfully determined who will most benefit from development policy in the Brazilian Amazon.⁶

The present study also examines the role of the State and private capital, more specifically, it deals with the State and private capital as they relate directly or indirectly to the small-farm sector in Ariquemes. In general, this study attempts to apply a framework that permits an understanding of both internal and external forces which affect the outcome of settlement. Ariquemes is conceptualized as a divided society of separate, often opposing, but always related classes. There are concrete relationships between them which may affect the outcome of small-farm settlement. The State is viewed as an aggregate

of agencies and policies. The character of State action is seen in the context of the changing needs of specific groups, local and extra-local, and their relations to other groups in a heterogenous but integrated system.

Methodology

The methods employed in the field were defined by the research objectives as outlined above. While quantitative information was collected through household surveys and from secondary sources, the resulting measures enter the analysis and become relevant "data" only when applied to the qualitative framework which is defined by the nature of the problem. The most relevant categories are not strictly quantifiable. Selected aspects of these categories may however, be expressed in quantitative terms. These quantities are taken as indicators of relationships, and their significance is relative, not absolute. For example, within a particular category such as cacau growers, coffee growers, plantation owners, subsistence producers, or sharecroppers, income is an important attribute that can be measured. But for the purposes of this study what is most significant is not the income of a household or firm per se but 1) relative income differences between categories 2) the source or sources of that income and 3) the major factors which determine relative changes in income over time and the possibilities of manipulating these factors. Not all of these factors can be determined by looking at the household or firm alone, and some of them could not be expressed

entirely as quantities, such as, respectively, minimum price policies and access to bureaucratic and political networks. Or, to provide a different example, within categories such as the various state agencies responsible for various aspects of infrastructural support, one could measure the total resources available to each. This however, is not as important to the analysis as 1) the relative distribution of these resources and especially, 2) how the distributive process works. In summary, within the overall methodology the quantitative measures serve as empirical indexes of the measurable outcome of structural processes. The latter, which are the priority concern, are investigated through qualitative methods of information gathering.

Two separate surveys were conducted in rather different ways on separate and fundamentally different populations. One was applied to small-scale farmers of the Marechal colonization project and another to medium and large-scale landowners of the Burareiro and Licitação projects.

The first survey consists of a stratified random sample of small farms in Ariquemes. The decision to stratify the sample was based on the fact that different areas of the colonization project reflected major differences in accessibility. After determining the different areas with different quality of access to the main highway (the BR-364), the sample taken from each of these areas was proportional to the distribution of farm households in each of these areas (i.e. if an area contained 30 percent of the rough total of

farm households, 30 percent of the sample was randomly taken from that area). The survey questionnaire concentrated on family composition, education, disease, health care and family medical expenses, migration and occupation history, family labor, farm production and extractive activity, use of credit, use and perception of extension services, commercialization strategies and management of savings, employment of wage labor and sharecroppers, sale of family labor for wages, sources of family income and subsistence needs, farm technology and land use, and various other aspects of livelihood and environmental adjustment.

The second survey was quite different. Because the farmers of Burareiro reside in large part in the town center, and because they tend to have a diversified "portfolio" of economic activities both rural and urban, and for various practical reasons, formal questionnaires were not systematically applied to the Burareiro "farmers" as in the Marechal project. Data was already available on land use, land ownership, wage labor, credit, and residence, at the individual level from CEPLAC (the cacau management agency). At the project level, secondary data was also available regarding land distribution, soil characteristics, physical infrastructure, health, credit, and various other aspects of farming in the Burareiro/ Licitação area. In addition to collecting this data, informal interviews were conducted with numerous medium and large-scale farmers, but not in a systematically random fashion. Since much of the Burareiro

population, as noted above, resides in town and since many of them are employed in local bureaucracy and commerce, there was inevitably a substantial amount of informal but informative contact with this class.

The research objectives required in-depth study of class-based groups and of the various institutions involved in execution of colonization and development programs. While the data collected from questionnaires and informal interviews with farmers and entrepreneurs was an important and necessary base, the focus of the research on the interaction of classes and institutions required additional information not accessible from a survey approach. It was necessary to collect, in addition to "life histories", a number of "institutional histories" from various agencies and class-based groups. This was the most difficult and problematic aspect of the field research and required methods tailored to the unique aspects of the research site and objectives.

The fact that distinct social classes in the community were rather clearly differentiated was both a blessing and a curse. Rivalry and active "conflict" between relevant sub-groups of the population combined with the rather high visibility of a prying and note-taking "estrangeiro" created numerous problems including a certain amount of distrust. With diplomacy and patience that I was able to overcome or circumvent these difficulties. Yet, as the research progressed and as I became knowledgeable of local events and

personalities I had to be increasingly cautious. Over time certain parties perceived my potential utility (and danger) as a source and channel of strategic information. This meant that I had to avoid being used, and had to be careful not to be perceived as partisan.

The study of class-based groups (cooperatives and associations) involved frequent attendance at meetings and interviews with selected informants. Investigation of agencies included "participant observation" in their activities and interviews with personnel in upper and mid-level positions (the mid-level personnel tended to be the more accurate and complete sources of information). Extensive interviews were conducted with local and state level representatives (i.e. in Ariquemes and in Porto Velho). To a lesser extent some interviews were conducted with representatives of relevant agencies at the federal level (Brasilia) and at the international level (the World Bank in Washington D.C.)

In addition, a smaller survey was carried out in the "Vila Velha" (see Chapter Three) among retired and active rubber collectors, placer miners, prostitutes, entrepreneurs, and other residents of this ghetto-like section of Ariquemes. Interviews with residents of the Vila Velha provided a different perspective on recent colonization since they represent a disappearing remnant of the preceding extractive era. Historical information on Ariquemes, going back to the turn of the century, was collected from these informants.

Recent colonization has had a devastating impact on the lives of these "native Rondonienses". This sub-population merits greater attention, unfortunately, than was possible given the focus of this project.

Notes

¹What is today Rondonia was declared the Federal Territory of Guaporé in 1943. Prior to this date the area belonged to the states of Amazonas and Mato Grosso. It did not take on its present name until 1956. In 1981 it became the most recent state created within the Federal Republic of Brazil.

²This estimate is based on the sum of total population in 1980 according to the national demographic census, or 494,744, plus the sum of registered migrants entering the state between 1980 and 1984, or 378,156. Obviously, the latter figure underestimates real population growth since natural increase has not been considered. Year by year estimates of in-migration are provided in Table 2.1 of Chapter Two.

³Five other projects are in the planning or initial settlement stage. These were established between 1982 and 1984 and by 1985 had perhaps absorbed 3,000 colonist families at the very most. One of them is in Ariquemes and in May of 1985 had approximately 60 families in residence.

⁴Others have applied such a "modernization" or culturalist framework to the study of pioneers (cf. Thompson 1973), to the analysis of peasantries (cf. Lewis 1951; Foster 1965;) and to economic development in general (cf. McClelland 1961; Inkeles 1966; Rostow 1960). For a critique of "modernization theory" see Heynig (1982:113-139) and Portes (1973).

⁵Some scholars support the view that capital subsumes and eventually destroys all other forms of production (cf. Bartra 1974 and Feder 1977). Others argue that capitalist and non-capitalist forms of production may be "articulated" in such a way that capitalism actually promotes and benefits from the expansion of the peasant sector. The latter argument has been applied to the Amazon peasantry by Sawyer (1979). A summary of this debate between the so-called "Chayanovists" and "Leninists, respectively, can be found in Heynig (1982) and Miró and Rodriguez (1982). A broader discussion of articulation between forms of production can be found in de Janvry (1981).

⁶There is, however, a relative scarcity of empirical work dealing specifically with large corporate groups (Wood 1983:260). The works of Lucio Flavio Pinto (1980:97-117; 1981) are a welcomed exception.

CHAPTER TWO HISTORICAL BACKGROUND

The Colonial Period to 1970

The first European exploration of the region that is now Rondonia began in the seventeenth century with the discovery of the Rio Madeira by the Portuguese explorer, Pedro Teixeira. In 1637, Teixeira journeyed up the Amazon towards his final destination in Quito. His expedition encountered the Madeira river and learned from local indigenous peoples that it originated in the mountains of Potosi. The first expedition to actually navigate the river began in São Paulo in 1647, crossing the continent to the Potosi region of Bolivia and descending the Guapai and Mamoré rivers to the Madeira. It was this second expedition, led by Antonio Raposo Tavares, that first descended the Rio Madeira marking the start of Portugal's claim to the region (Ferreira 1982:23).

Setting out from Belem, explorers, traders and missionaries later traveled beyond the Madeira, and up the Mamoré and Guaporé rivers which, since the Treaty of Madrid in 1750, formed part of the Brazilian border with Bolivia. The earliest settlements are attributed to the Jesuit order who established the village of Tupinambaranas on the lower Madeira nineteen years after Tavares' expedition.

Reports to the Crown, in 1687, warned that Dutch traders from the Orinoco were trading with Indians in the area. By 1690, the Society of Jesus, encouraged by the Crown, had established four additional missions on the lower Madeira. (The indigenous peoples of these missions were referred to in early reports as the Carajipuna.) There is no record that the Jesuits ventured up the Madeira any farther than what is now Porto Velho (Ferreira 1982:23-25).

One hundred years after Tavares voyage the economic influence of the Portuguese Crown had pushed onward into what is now Northern Mato Grosso. The discovery of gold near the Cuiabá and Coxipó rivers by the 1719 expedition of Pascoal Moreira Cabral stimulated interest in finding the most efficient transportation route between the new mining region and Belem (Ferreira 1982:33). The exigencies of transport seem to have determined the nature and location of settlement over the next two hundred years.

All European and Brazilian settlement in the region, prior to World War II, was defined by extractive economies and the obstacles to transport posed by the region's geography. It was to the benefit of Rondonia and its native peoples that, for three centuries, the orientation of trade was concentrated along the major fluvial artery. Minimal attention was given to the wealth of the region through which it passes. The interior of Rondonia remained almost untouched until the rubber boom. Extraction did not, in

fact, reach far into Rondonia until the second peak of rubber extraction during the 1940's.

The Guaporé river flows smoothly from its origin, west of Cuiabá, until it merges with the Mamoré river, which descends from Bolivia. Navigation is at this point interrupted by a series of waterfalls along a 400 kilometer stretch of the Mamore-Madeira. This series of falls and rapids punctuates the gradual ascent from the Amazon plain towards the central planalto of Brazil. From Porto Velho to Guajará Mirim altitude increases from 60 to 122 meters above sea level. The first fall one encounters traveling upstream is the Cachoeira Santo Antonio, twenty kilometers up river from Porto Velho. Beyond it lie nineteen more (Ferreira 1982:15-21). The last fall, the Cachoeira Guajará Mirim, was to become the site of the only other major urban center in Rondonia, apart from Porto Velho, until the period of recent colonization.

The first expedition to descend the broken stretch of the Madeira-Mamoré was that of Tavares in 1650, but no written record of this part of the expedition exists. In 1722, three years into the gold mining operations in Mato Grosso, another expedition did leave an account of the undertaking. Led by Francisco Melo Palheta of Belem, this expedition spent 45 days traversing the series of falls, in small boats and canoes. The vicissitudes of navigation up the river were again described at length by Jose Gonçalves da Fonseca who accompanied an expedition in 1749, led by

another nobleman of Belem, Luis Fagundes Machado. The latter expended 53 days in crossing the falls. Both accounts described a tempest of hardships that these and later travelers would have to endure along the way. Nevertheless, by 1750 this fluvial route between the mines of Mato Grosso and the port of Belem was well known and in frequent use by traders and commercial transporters (Ferreira 1982:25-39).

In spite of great risk of disease, Indian attack, and shipwreck, transport continued and grew. The region was of sufficient economic interest to draw the special attention of the Crown's colonial governor of Pará, Dom Francisco de Sousa Coutinho. In 1797, Sousa Coutinho presented an elaborately detailed plan to organize navigational enterprise between Mato Grosso and Pará. He proposed a system that would be owned and operated by the Crown, or by private entrepreneurs contracted by the Crown, to carry out his plan. The plan would ostensibly facilitate and reduce the costs of transport since merchants would no longer need to maintain their own ships and personnel (Ferreira 1982:47-52).

Sousa Coutinho apparently believed that a more centralized system with a clearly defined division of tasks and managerial responsibilities would alleviate some of the technical difficulties. The plan was presented in an altruistic tone. Its primary goal was expressed as the reduction of human and economic tragedy. It would seem, however, that the governor (or the Crown) might have a vested interest in so supervising the transport of valuable

commodities, not to mention in securing monopolistic control of shipping. In any event, the plan was never executed in its entirety.

The plan did lead eventually to provision of military reinforcements at the major crossings where goods had to be dragged on land around the falls. The soldiers stationed at these posts lent support to commercial transport when necessary, providing food, medicines, and defense against Indian attack (Ferreira 1982:52).

The falls themselves were probably a limiting factor on the scale of extractive activity and, consequently, on the rise of urban centers and surrounding agricultural growth. Even during the rubber boom neither Guajará Mirim nor Porto Velho gained enough momentum to stimulate any sort of integral, even partially independent, regional economy. They remained entirely dependent on larger centers down river, viz. Manaus and Belem.

The few settlements that appeared by the falls were a by-product of extractive activity and a function of the transportation system. It is probably inaccurate to call them settlements at all; they were, more precisely, supportive outposts whose existence depended entirely on the economic link between Mato Grosso and Belem. There was no cause for their growth until a new commodity, closer at hand, became an object of economic interest to outside markets.

The next phase in Rondonia's history of occupation can be defined in terms of two major events: the rubber boom,

beginning in the last half of the nineteenth century and construction of a railroad to circumvent the navigational problems and limitations of fluvial transportation. Rubber extraction brought new migrants, primarily from the Northeast, and greater penetration of the tributaries along the Guaporé, Mamoré, Madeira, and Abunã rivers. The rubber economy, however, did not result in significant nucleation of settlement, except insofar as Guajará Mirim and Porto Velho experienced commercial growth. But even these urban centers did not stimulate a regional economy that could be separated significantly from the economies of Manaus and Belem. Neither one of two major booms in rubber extraction changed the dependent and ephemeral nature of occupation.

With the rubber boom, small nuclei of approximately 10 to 20 families appeared at the confluences of rivers and functioned as managerial and distributive centers for the privately owned extraction enterprises. Castanha do Pará (Brazil nut) was also collected and exported from the region.

But extractive methods and the system of marketing and distribution were the greatest impediments to nucleated settlement and to the growth of agriculture. The rubber collector was generally forced to live in isolation since the size of the area he was responsible for was relatively large. Neighbors were distant, usually hours away. There was no market for a significant agricultural surplus; population density was still very low and the seringalista (owner of an

area in which rubber was being extracted), by discouraging or prohibiting the cultivation of subsistence crops, could keep the seringueiros (rubber collectors) in constant dependency and debt. Although some cultivation of food staples could be found at the trading posts of the seringal (the area of rubber extraction owned by the seringalista), the level of production could not support the needs of all the seringueiro families. The workers' subsistence needs were generally purchased with rubber. The exchange of rubber for subsistence goods was a key element in maintaining a stable workforce under extreme conditions of hardship (cf. Wagley 1976).

The profits to be made in the export of rubber stimulated, just as gold had done more than two centuries before, efforts to facilitate the export of the region's resources. This time, however, the entrepreneurs and their planners had the backing of industrial technology. Change in the pattern (though not in the essential nature) of settlement came with a "modern" solution to the problems posed by the fluvial system: the steam powered locomotive.

The idea that the transportation problem created by the falls might be resolved with the construction of a railroad was first suggested by a Bolivian general, Quentin Quevedo, in 1861. Bolivia had looked to the river system of the Amazon plain for several decades as an optimal solution for their own exportation problems. During the same year a Brazilian engineer, João Martins da Silva Coutinho, also

traveled the Madeira. Commissioned by the governor of Amazonas to study the navigational problems of the Madeira, Silva Coutinho came to a similar conclusion. His report stated that the Madeira and Mamoré rivers presented the best option for the movement of trade from the interior to the coast. He concluded that this route would be more secure since, unlike the Paraguay river, it passes exclusively through Brazilian territory, and it would also encourage greater exploitation of untapped riches present in the region. The great potential of the fluvial system could be realized if the obstacles on the Madeira were eliminated by a relatively short railway (Ferreira 1982:47-53).

The early optimism with regard to rail transport proved illusory in the years that followed. Between the first conception of such a project and its final realization in 1912, there were two disastrous attempts to build the railroad. In the several attempts, including the final and successful one, literally thousands of lives were lost to disease, accident, starvation, and violence--all for a little more than 100 kilometers of rail, and most ironically, for a transportation system that would never serve the great purpose for which it was intended.

It was never used on a major scale by the Bolivians, who relinquished the territory of Acre (by the Treaty of Petropolis, 1903) partially in exchange for transportation rights on a railway which Brazil agreed to construct. Only one year after signing this treaty, Bolivia signed another

with Chile. The latter also provided for the construction of a railroad (likewise in compensation for territory lost to Chile in 1882), one to link Bolivia to the Pacific, and that would eventually compete successfully with the Brazilian alternative (Ferreira 1982:189).

Ironically, completion of the railroad in 1912 coincided precisely with the beginning of the decline in the rubber boom. The decreasing use of the railroad in following years led to its eventual dilapidation and closing. A small section from Porto Velho to Santo Antonio was later restored in the 1970s and is presently operated as a tourist attraction.

The railway's impact on settlement was negligible. The few settlements that appeared along the course of the railway were small and functioned to provide services to the railway company and its travelers. Without an operative railroad these settlements either disappeared or became very isolated communities surviving on subsistence production and extraction.

The construction project itself did stimulate temporary growth in Porto Velho and Guajará Mirim, more so in the former. But in both cases growth was always limited by the fact that the local economies were entirely based on particular extractive activities. Supportive activities such as shipping, commerce and basic services were limited by the performance and profitability of extractive commodities.

The resurgence of rubber production in the 1940s, when the circumstances of World War II renewed the demand for Brazilian rubber, did not change the basic characteristics of the regional economy. If anything, it merely expanded the old economy, but in ways more predatory than before, and certainly more exploitative and destructive from the perspective of the workers and the natural resource base.

Tens of thousands of migrants came from the northeast in the early 1940s, a large percentage through the organized war effort, financed by the North American Rubber Development Corporation, called the Batalha da Borracha (The Rubber Battle). The men came with notions of striking it rich in the profitable rubber trade and with promises (they were in fact contracted by the government) that they would receive salary, tools, food, clothing, etc. The organized plan seemed to end in Belem where the migrants were placed in camps until they were handed over to representatives of the seringalistas. Henceforth their destiny was entirely in the hands of the private employer.

The demand for rubber, and perhaps the knowledge that the demand would not be a permanent one, encouraged the seringalistas to overexploit the natural rubber. Conservation methods used by the more experienced collectors were for the most part abandoned. Methods which depleted the latex of the rubber trees were employed to gain higher yields in the short term, often because the seringueiro was under pressure to fulfill a production quota. This was the way of

life according to those who survived the great Batalha da Borracha: people who in 1984 lived on the fringes of the new Rondonia, dispossessed of even the right to collect rubber on lands they may have occupied for three generations.

Expansion of the seringais declined and eventually halted altogether in the decade after the war. Sources of credit, on which the whole of rubber extraction depended, eventually were reduced and, together with a decline in demand, forced the close of this economic era. In the 1950s, the possibility of an exodus from the territory prompted the Brazilian government to establish the first official agricultural settlement projects. Settlements were opened near Porto Velho and Guajará Mirim and in the Calama area which is on the Madeira at its confluence with the Ji Paraná river. The projects did not succeed in stimulating agricultural growth or in preventing out-migration.

Penetration of the interior of Rondonia led to the discovery of another resource that would have a lasting impact on the region. The chance discovery of cassiterite provided new economic incentives for outside investors and for part of the old rubber oligarchy that had dominated the local, extractive economy.

Cassiterite, from which tin is extracted, brought many new migrants to Rondonia. Estimates range as high as 50,000, but there are no accurate records of in-migration during this period: the official census shows an increase of about 40,000

between 1960 and 1970. The mining was done manually by the system known as garimpagem (placer mining). Access to the mining areas, and transport of cassiterite and trade goods, was primarily by air and land to Porto Velho then down the Madeira on the traditional shipping route.

The orientation of trade continued in the direction of Amazonas and Pará and was again characterized by the exchange of natural resources for subsistence goods, tools, etc. The situation would remain the same until precarious ground transportation was opened up to link Porto Velho with Cuiabá. This did not come about until the late 1960s, yet by that time the extractive industry of garimpagem was approaching its end. In 1971 the federal government declared an end to the manual extraction of cassiterite and conceded mineral rights to several multi-national and domestic mining corporations to mechanize the extraction process.

Most of the garimpeiros (placer miners) were removed from Rondonia by the military and flown to other parts of Brazil. Thousands remained, among them many who had been rubber collectors before becoming garimpeiros. Some returned to rubber and brazil nut extraction. Others sought employment in Porto Velho, others continued mining cassiterite clandestinely, and still others turned to alluvial gold mining on the Madeira river above Porto Velho. The mechanization of cassiterite could only absorb a minuscule proportion of the garimpeiros: most were not

interested, in fact, since the government offered to fly them to other areas of garimpagem.

The end of one era appeared to herald the beginning of another. As the garimpos (placer mines) were closing, farmers in search of land began arriving. They came from the south of Brazil along the first precarious road from Cuiabá. The new era, however, implied a change not only in the economic foundations of settlement, but brought about a radical transformation in the effects of resource exploitation, the pattern of settlement, and the status of Rondonia in the national context. Rondonia after 1970 is a fundamentally different subject for analysis that requires an understanding of a broader range of outside forces conditioning the progress of occupation. What was essentially a dependent enclave for three centuries would become, in the space of a single decade, an integral and geo-demographically contiguous part of the Brazilian industrial economy. Although Rondonia was to remain dependent in many, and perhaps more profound ways, the change in its relation to forces shaping national development was a dramatic one. What came about was much more than a shift in economic orientation: Rondonia experienced a complete shift in the infrastructural foundations of settlement and growth. The territory was lifted up from the fringe and set down in the sphere of influence of major transformations going on at the very core of Brazilian national society.

The outline of this new occupation however, was sketched nearly three quarters of a century ago in the geopolitics of Brazilian sovereignty in the Northwest, expressed by the expansion of Brazil's telegraphic communications. The installation of telegraph lines from Cuiabá to Santo Antonio do Madeira, near Porto Velho, was led by the legendary explorer, from whom the territory derived its name, Marechal Candido Rondon. It was along the course of this early path that the first road connecting Porto Velho to Cuiaba was built.

The communications lines and the outposts established to maintain them did not in themselves lead to extensive settlement. Along this stretch, which passed through the Ji Paraná and Jamari river valleys, a few of the outposts became town centers: Vilhena, Presidente Hermes, Marco Rondon, Ji Paraná, Pimenta Bueno, and Ariquemes. But before the recent colonization they were little more than small centers of commerce for seringueiros and garimpeiros. The location of these centers was determined by smaller rivers flowing towards the Madeira and Porto Velho: small nuclei such as Pimenta Bueno, Ji Paraná, and Ariquemes served as entrepôts in the extractive economy (Dias 1980:72).

The basic character of settlement only began to change after 1960 when the Cuiabá-Porto Velho road was first opened. Although the completion of the road was a project of Juscelino Kubitscheck's administration, it was actually begun in 1943 by the Brazilian military. At the time it was

considered a strategic necessity; the valuable resources of the Northwest required a more direct link to the industrial south. The end of the war however, saw the end of construction: the need was less immediate and the government following the one that initiated the project perceived it as a purely "demagogic" enterprise. Political support for the road did not resurface until 1959 during the administration of Governor Paulo Nunes Leal. The earlier construction efforts had left 240 kilometers of road: 100 from Cuiabá heading northwest, and 140 from Porto Velho descending to the southeast. Nunes Leal resurrected the arguments supporting construction in a lengthy series of emotion charged, newspaper articles concerning the region's great potential. These were presented to President Kubitscheck in January of 1960. In February the President's support for the project was announced in this headline of the Porto Velho "Gazeta":

President accepts our suggestion for the urgent construction of the BR-29 to link Acre, Rondonia, and Brasilia. We suggested the construction on the 12th and 19th of January. The President announces his deliberation on the 5th of February. By December of this year the road will be complete. The Indians will probably attack. The BR-29 will reveal a rich sub-soil. Porto Velho will attract capital from São Paulo. (Cited in Ferreira 1982: 367-371)

Construction began in March and by September of 1960 the road was, indeed, passable. A caravan of seven trucks set out from Cuiabá on an inaugural passage in October and two months later arrived, at last, in Porto Velho (Ferreira 1982:371).

Migrants did not arrive in great numbers until the major bridges of the road were completed in 1967 (Dias 1980:67). By this time, the road had received its present designation, the "BR-364" (the people of Rondonia call it, simply, the BR). A period of "spontaneous" colonization along the highway brought thousands of families into the region setting the stage for conflicts over land. It was primarily the intensification of conflict that motivated the Institute of Colonization and Agrarian Reform (INCRA) to accelerate its program of directed settlement in this region. It should be emphasized that INCRA itself came in response to a spontaneous demographic process. INCRA cannot be attributed primary responsibility for the migration of colonists to Rondonia. The causes of this demographic movement lay primarily in "push factors". Migration was primarily a consequence of economic and technological changes occurring in rural areas of the South and Center-South of Brazil (cf. Margolis 1973 and Vollweiler 1979). With or without INCRA, the floodgates were thrown open when the highway was completed and Rondonia truly came of age as an integral part of Brazil. Rondonia began to absorb migrating landless families who had until then been moving into Mato Grosso, Goias, Pará and into Paraguay, which borders with the state of Paraná.

In retrospect, population growth between the turn of the century and the opening of the BR-364 was, in spite of the booms and busts discussed above, a continuous process. At

least since 1940 there had been slow population growth. According to the census figures, total population in Rondonia was 21,297 in 1940, 36,935 in 1950, 70,232 in 1960 and 111,064 in 1970. The rate of increase by decade declines slightly between 1960 and 1970 (1940-1950: 73.4 percent; 1950-1960: 88.7 percent; 1960-1970: 59.2 percent) but the absolute increase still exceeds those of the previous periods. As the dynamics of occupation changed, so did the scale of in-migration and by 1984, the population of Rondonia grew to more than 800,000 inhabitants.

Recent Colonization: 1970-1984

The first colonization projects along the BR-364 were established by private enterprise in the late 1960s after ground transportation was significantly improved. The major private project, CALAMA, S.A., sold parcels of various sizes in a 74,000 hectare area in the municipality of Ji Paraná. The parcels varied from 24 to 500 hectares in size; most were either 24, 36, or 48 hectares, a few were of 120 or 240 hectares, and there were no more than 10 equal to or exceeding 500 hectares in size. The total number of properties came to 1,461. The CALAMA company owned 300,000 hectares altogether (all within Ji Paraná) and would later sell more parcels of land to colonists and entrepreneurs. Services provided by the company consisted only of opening roads (which was in large part never carried out), demarcation of parcels, and provision of land titles (Mendes 1979:262). This area soon became a source of tension

and widespread violence (cf. Gail 1978; Camara dos Deputados 1977) due to conflicting claims to land, inadequate physical infrastructure, and disorganized urban growth. Against this backdrop of rapidly growing disorder INCRA entered the scene.

As part of the Program for National Integration (PIN), Legal Decree no. 1.164, 1971, determined that all lands within 100 kilometers of each side of national highways would come under INCRA's control. The law applied also to areas within 150 kilometers of the international borders. This placed nearly all of Rondonia under INCRA's jurisdiction. Henceforth, all existing "titles" and all new claims would be validated or rejected through this agency alone.

INCRA was actually preceded by the Instituto Brasileiro de Reforma Agraria (IBRA) which took the first inventory of lands available for distribution and settlement in Rondonia. This survey was completed in 1967-68. INCRA took over the functions of IBRA in 1970 and repeated the land survey in 1972.

Between 1968 and 1977, 22 official colonization projects were installed in various regions of Brazil. Fourteen of these projects were located in the North region; seven in Rondonia. During the same period 26,664 families were settled in these projects nationwide. The North region accounts for 22,448 or 84 percent of these families. Rondonia received 14,456; 54 percent of the national and 64 percent of the regional totals. Altogether the 22 projects encompassed 7,365,411 hectares. The North region accounted

for 94 percent or 6,888,476 hectares and Rondonia, with 2,813,896 hectares devoted to colonization, comprised 38 percent of the national and 40 percent of the regional totals. Rondonia's share in terms of land distributed to colonists is somewhat distorted by these figures. The Altamira project in Pará encompassed 2,495,250 hectares but settled only 2,955 families over this period--about one-fifth of the number of colonists settled in Rondonia (Mendes 1979:252-53).

During the early 1970s, the Rondonia colonization projects of Ouro Preto, Ji Paraná, and Jaru grew beyond their original limits as the rate of in-migration continued to rise. INCRA swept in behind to survey, drew official boundaries and issued the colonists "licenses of occupation" which could later be exchanged for "definitive title". INCRA's basic mission was to keep the peace; to resolve existing conflicts and nip others in the bud. Although the initial role defined for INCRA embraced more than juridical functions (viz. additional support in terms of roads, urban services, extension, and cooperatives), being based on a broad concept of functionally "integrated" colonization, its regulatory aspect dominated for several reasons.

Federal funds for INCRA were reduced after the apparent failure of the Transamazon scheme and a general shift in national economic policy regarding the development of Amazonia. National investment turned to the support of capital intensive development (ranching; large-scale,

agro-industrial production; mineral extraction) through SUDAM (Superintendencia de Desenvolvimento da Amazonia) and away from the earlier orientation towards small-scale agriculture. INCRA simply did not have the resources, financial or human, to follow through with its original goals; the sale of large tracts to private capital helped, in fact, to finance the agency's limited operations.

The rate of demographic growth in Rondonia also increased the pressure on INCRA to concentrate on regulatory action. Public knowledge of the agency's presence contributed to intensified in-migration and colonization generated information encouraging friends and relatives of colonists to follow them.

Finally, settlement in the official projects and construction of access roads provided improved conditions for squatters to extend the boundaries of settlement areas. INCRA's regulation of settlement only seemed to generate a greater need for regulatory action.

INCRA's directed settlement in Rondonia began with the Ouro Preto Integrated Colonization Project where the first organized settlement of migrant families took place in July of 1970. This particular project was created to relieve some of the tension building in the adjacent area of Ji Paraná. But the demand for parcels in Ouro Preto soon exceeded the supply. In 1971, hoping to relieve some of the growing pressure on the BR-364, INCRA planned another project near Guajará Mirim. Families were settled in this new

project, Sidney Girão, in 1972. Migrants continued to arrive at an increasing rate and over the next three years INCRA organized and settled the following projects in the BR-364 area: Ji Paraná (1973), Padre Adolfo Rohl (1973), Paulo Assis Ribeiro (1974), Burareiro (1975), and Marechal (1975).

The latter two, Burareiro and Marechal, were to be somewhat different than the preceding projects, given the financial limitations of the colonization agency. In contrast to the "Projetos de Colonização Integrado" (PICs), in these "Projetos de Assentamento Dirigido" (PADs) INCRA's role in terms of infrastructural support (roads, health, education, housing, cooperative organization, credit, and commercialization) was to be more limited. However, the decision was soon made to provide the same assistance to the PADs. Essentially this meant that INCRA would set up convenios, or agreements, with other state and federal agencies to provide support services. In the end, the PICs and PADs, in terms of INCRA administration, differed in name only. For the first eight years of directed settlement INCRA coordinated the various aspects of infrastructural support. In 1979, administrative control of these services was passed over to the territorial government or directly to other federal agencies (INCRA 1984:19).

Between 1970 and 1983, the number of families settled in these seven projects reached a total of 23,655. An additional 13,613 families were settled in scattered areas

throughout Rondonia (but outside of the official projects) under a category designated assentamento rapido or rapid settlement. Furthermore there were many families that settled as squatters, outside of project areas, which later acquired titles from INCRA. In 1979-81, 13,147 families acquired ownership to land in this manner (INCRA 1984).

New colonization projects were planned in the late 1970s and in 1984 were in the process of execution. They were a part of the World Bank funded POLONOROESTE program which will be discussed below. These new projects known as Urupa, Machadinho, Marmelo, Capitão Silvio, Bom Principio, Terra Firme, and Conceicão, have an estimated capacity to settle an additional 20.000 families.

By mid-1984 approximately 3,000 of these families had received land, in the Urupa and Machadinho projects (the number of families actually having occupied these parcels was probably less than half that figure given limited access and support services available in these areas). The new projects were somewhat different than the earlier ones in that the size of parcels distributed was reduced by 40-70 percent. Forest reserves were maintained in blocks rather than attempt to enforce a requirement that farmers leave 50 percent of their parcels in forest reserve, which had been the policy in earlier projects. The Machadinho project was fundamentally different in terms of settlement pattern. In this project the parcels--from 25 to 50 hectares in sized--were demarcated

in such a way that a maximum number possible were bordered by or contain some stream or river.

These projects differed significantly in that non-settlement of the areas prior to organized distribution was, for the most part, successfully enforced by the colonization agency and the military. The reduction of land invasions in these areas may also be related to increased awareness of the difficulties of isolation, the danger of disease in particular, the poverty of the new migrants, and labor opportunities on existing farms and in town centers. Also, at least in Urupa and Machadinho, the system of access and feeder roads was essentially in place before land was distributed.

INCRA data on numbers of families settled, areas demarcated, titles issued, etc. are rife with contradictions and ambiguities. The figures already cited and those found below should be taken as very general estimates. In terms of Rondonia's history of directed settlement what was most important was the difference between the rate of demographic increase and the pace of land distribution.

The data available on INCRA distribution of land does not permit a year by year comparison with annual in-migration estimates. In any event, the overall discrepancy between them and the increasing pace of in-migration in the past few years will suffice to make the point: in-migration far exceeded the capacity of INCRA to provide land for new migrants.

Rondonia's population grew at a rate of 15.8 percent per year between 1970 and 1980. The total population of 111,000 in 1970 grew to nearly 500,000 in 1980 (Instituto Brasileiro de Geografia e Estatistica 1981:46). One estimate suggests an in-migration of between 329,000 to 339,000 persons during this period. (Wood and Wilson 1982). In the second half of 1977 the territorial government began to keep records on in-migration and continued to do so. Only recently, however, did the registration posts which counted the number of incoming migrants begin working around the clock. Hence, prior to this change the migrants entering at night were not counted. The figures cited below are likely to underestimate the true intensity of demographic growth due to in-migration.

In order to compare in-migration to settlement, the population figures in Table 2.1 have been divided by a factor of 5 to estimate the number of families entering Rondonia. Five was chosen since this figure approximates the average family size of households in Rondonia. (Instituto Brasileiro de Geografia e Estatistica 1983a:86). INCRA settled a total of 50,415 families between 1970 and 1983 (and expected to settle an additional 22,000 in new projects). Perhaps another 3,000 families received parcels in 1984 (in the Machadinho and Urupa projects), bringing the total number of families settled between 1970 and 1984 to about 53,000. According to Wood and Wilson (1982), the number of families migrating to Rondonia between 1970 and 1980 was approximately 65,800. An additional 65,112 were counted at the

Table 2.1
Migrants Registered Entering Rondonia
1977-1984

YEAR	NEW MIGRANTS
1977	3,140 (2nd semester only)
1978	12,658
1979	36,791
1980	49,205
1981	60,218
1982	58,052
1983	92,723
1984	65,369 (1st semester only)
Total	378,156

Source: Secretaria de Planejamento
de Rondonia 1984.

registration posts between January 1980 and June 1984. Together, these figures yield a total of 130,912 families. This figure implies that there was an excess of 77,912 families over the number of families settled by INCRA. If the 19,000 remaining parcels in the new projects are taken into account, there still remains an excess of about 59,000 families over projected INCRA parcels available. The excess was quite likely to grow at an increasing rate, since the rate of in-migration appeared to be growing by leaps and bounds. The number of migrants arriving in the first 6 months of 1984 was more than double the number registered during the same period of the preceding year.

The projected settlement of 20,000 families between 1982 and 1988 in new INCRA projects fell about 7,700 short of the number of families already on waiting lists for land as of June 1983 (Nobrega et al. 1983). The pressure on INCRA to find new areas for colonization was such that there was an attempt in progress in 1984 to authorize colonization in a large area of the Guaporé Valley. This area had already been designated for indigenous and natural reserves; a policy decision that was, in fact, one stipulation of the World Bank loan for POLONOROESTE funding. These lands had also been determined inadequate for agricultural exploitation, which would violate yet another stipulation of the loan: that colonization be encouraged only where soils were suitable. Ironically, unexploited lands existed throughout the state in less isolated areas. They were not, however, available in

the juridical sense, as they were legally owned by large-scale private investors.

Land was unevenly distributed in Rondonia since the beginning of official colonization. Large claims were successfully defended by mining companies, seringalistas, plantation owners, and land speculators since the earliest days of federal intervention; some were still in litigation in 1984. The distribution and sale of public lands by INCRA had in itself served to increase the degree of concentration. Rondonia's lands were quite successfully accumulated by private capital before the significant advance of the small-farm frontier. Indeed, the prior appropriation of large areas by various individuals and investment groups, from this region and from other regions of Brazil, defined the area available for colonization. In some cases the defense of prior claims (sometimes entirely or partially fabricated) resulted in resettlement of farmers already given lands by the federal colonization agency.

Table 2.2 shows a highly skewed distribution of land in 1970 and 1980. One need only take a brief look at the extremes to conclude that a definite imbalance existed. Between 1970 and 1980 the disparity decreased slightly overall but not significantly. In 1980, 1.5 percent of the establishments owned nearly 40 percent of the land, while the "bottom" two-thirds of the establishments owned only half as much or about 22 percent (Instituto Brasileiro de Geografia e Estatistica 1983b:2-3).

Table 2.2
Land Distribution in Rondonia (1970-1980)
(in hectares)

	1970			1980		
(1)	(2)	(3)	(4)	(5)	(2)	(3)
<50	2,627	(37.0)	46,835	(2.8)	19,391	(40.0)
50<100	707	(9.0)	46,916	(2.8)	12,546	(25.9)
100<200	923	(13.0)	116,049	(7.1)	14,052	(29.0)
200<500	2,608	(36.8)	724,955	(44.0)	1,553	(3.2)
500<1,000	108	(1.5)	71,042	(4.3)	260	(0.5)
1,000<10,000	96	(1.3)	243,634	(14.9)	539	(1.1)
10,000 +	13	(0.1)	382,209	(23.4)	24	(.04)
			100.0		100.0	
Totals	7,082		1,631,640		48,365	5,223,628

- (1) Farm Size
- (2) Number of Farms
- (3) Percent of Farms
- (4) Area of Farms
- (5) Percent of Area

Source: Instituto Brasileiro de Geografia e Estatística 1983b.

Between 1970 and 1980 the total area encompassed by private landholdings in Rondonia increased nearly threefold. By 1980 about one-fifth of Rondonia's land was under private ownership. The occupation and/or exploitation of the land in various ways had, of course, taken its toll on the natural environment. According to Fearnside (1984), deforestation increased 37 percent per year over the 1975-1980 period; from 0.3 percent to 3.1 percent of the land, or from 1,216 to 7,579 square kilometers of Rondonia's forests.

The heavy in-migration and the actual availability of land, i.e. the limitations on the rate of agricultural settlement, resulted in rapid urbanization of this frontier. The urban population of Rondonia has, in a short period, nearly caught up with the national-level distribution between rural and urban areas (see Table 2.3). Population density has increased from 0.46 persons per square kilometer in 1970, to 2.03 persons per square kilometer in 1980. This was still a relatively low population density in comparison to non-frontier states. Nevertheless, rapid and unrelenting growth was beginning to create a visible strain on economic and social conditions, especially in the towns along the BR-364 highway.

There were three major reasons for the rapid growth of town centers in Rondonia. First, large numbers of migrants were awaiting land from INCRA, others received land but did not have the capital resources to begin farming, and many did not have adequate access to their parcels. Hence, many

Table 2.3
Urban and Rural Population (1970/1980)

	1970 **	1980	Urban/ Rural	Urban	%	Rural	%	Total	AARG*
Ariquemes ***	7,572	19,674	36.7	33,815	63.3	53,489	21.5		
Cacoal	1,193	17,634	26.2	49,635	73.8	67,269	49.6		
Guajará Mirim	24,247	21,998	63.2	12,816	36.8	34,814	3.6		
Ji Paraná	8,904	39,736	32.5	82,428	67.5	122,164	29.9		
Pimenta Bueno	2,624	10,985	36.5	19,087	63.5	30,072	27.6		
Porto Velho	64,522	103,417	76.8	31,204	23.2	134,621	7.6		
Vilhena	4,597	19,857	39.4	30,524	60.6	50,381	27.0		
Total Pop.	113,659	233,301	47.3	259,509	52.7	492,810			
North Region			50.8		49.2				
Brazil			49.0		51.0				

* Average Annual Rate of Growth

** Aggregate Rural and Urban

*** Ariquemes data includes Jaru district which was no longer a part of Ariquemes in 1984.

Source: Instituto Brasileiro de Geografia e Estatística 1981.

migrants opted for settlement (temporary or permanent) on the fringes of these growing centers. Here they may have found temporary employment or they may have established small businesses. Second, there was a strong attraction of commercial capital that came to Rondonia specifically to provide goods and services in an expanding and highly optimistic market. Third, there was a proliferation of local, state, and federal agencies.

An interesting fact appeared in the migration data for the first half of 1983: 70 percent of the migrants entering Rondonia were coming from urban areas. While many of the migrants may actually have represented migrant wage labor which merely declared residence in urban centers, a large number were undoubtedly coming in search of urban employment or commercial opportunities. The "crisis" in Brazil's economy exerted strong pressure on labor and capital to seek new markets on the frontier. The perception of possible opportunities in Rondonia was as much of a driving force among unemployed professionals with college level educations as it was among skilled and unskilled wage labor.

The intensification of urban growth in recent years led to new sorts of problems for Rondonia's towns. Town infrastructure lagged far behind the demand for such basic necessities of town life as electric power, water and sewage facilities, natural gas, waste disposal, housing, urban lots, health care, educational facilities (primary and secondary), etc. These inadequacies resulted in social tensions which,

in mid-1984 broke into street riots, looting, and even a forced shutdown of the BR-364 by thousands of demonstrators. A relatively new city hall in one of the major town centers, Cacoal, was razed to the ground by arsonists in protest against inadequate electric services. State authorities were sufficiently worried over one incident to invoke national security measures and temporarily removed the mayor from office in the largest town of the BR-364, Ji Paraná.

Rondonia was no longer simply an agricultural frontier, but neither was it a region with significant urban development based on regional industry. There was little industry in Rondonia beyond the mining operations (which absorbed a very small quantity of labor). The proliferation of town entrepreneurs appeared to exceed the demand for goods and services. The rapid growth of boom towns along the BR-364 reflected expectations that exceeded opportunities for employment and commerce. In large part the growth of these towns was also a result of state intervention which installed myriad agencies of federal, state, and local government.

In the late 1970s the territorial administration and the federal government, recognizing the need for intensified support of economic development in Rondonia, devised a plan to improve the precarious condition of the BR-364 between Cuiabá and Porto Velho. At the same time a survey of conditions prevailing in the agricultural sector was carried out by the territorial Department of Agriculture and a plan was drawn up for the reinforcement of small-scale production.

The latter agency produced a massive report describing a comprehensive plan to improve the conditions for agricultural production in Rondonia (cf. Secretaria de Estado da Agricultura de Rondonia 1980).

Financing for pavement of the BR-364 was sought from the World Bank and a new program, POLONOROESTE, was created within SUDECO (the Superintendency for the Development of the Center-West). The World Bank approved a loan of four hundred and forty three million dollars U.S. to carry out the road project and a number of other sub-projects related to health, settlement consolidation, development and preservation of forest resources, and protection of indigenous peoples. Paving of the main highway was completed in September of 1984.

The sub-projects were essentially conditions attached to the loan; the road was not to be given support unless POLONOROESTE also addressed the socio-economic, environmental, and indigenous problems that would no doubt be intensified by the highway itself. The release of financing from the World Bank would be held up if the conditions were not met; this would later prove to be an entirely inadequate means of enforcement and raised controversy over the loan and over the accountability of the World Bank itself. POLONOROESTE will be explored in greater detail in Chapter Six as it is a major question facing development in Northwest Brazil and raises several important issues regarding the nature of state intervention in the development process.

The course of small-farm colonization was in many ways defined by events and forces in Rondonia's history described in this chapter. Before moving on to a discussion of pioneer farmers in Ariquemes it would inform that discussion if we first take a brief look at the history of Ariquemes as a growing town.

CHAPTER THREE
ARIQUEMES: TRADING POST TO MODERN TOWN

The history of the town of Ariquemes can be divided into three distinct phases. Each is related to the changing basis of the local economy. It began as an entrepot in an economy based on rubber extraction. Later it took on a similar function in the economy of manual cassiterite mining. Finally it became what it is today, a town center growing as a function of agricultural settlement and the continued influx of landless migrants.

Ariquemes and Extraction

Prior to the rubber boom Ariquemes was the site of indigenous villages along the banks of the Jamari river and was called Papagaios. What became of the Indians who lived there is something of a mystery and beyond the living memory of even the oldest residents (the resident who had been there the longest arrived in 1916, shortly before the Rondon expedition reached Ariquemes). Some say the Arikemis Indians, as they were called, were massacred by the seringalistas or decimated by disease. Other stories tell that a small group of surviving Indians fled down the Jamari to what is now Vila 7 de Setembro, near Porto Velho, or that they fled westward into the forest in the direction of the Serra dos Pacaas Novos. Some believe they may have joined an

indigenous group living in that region today, known as the Uru Eu Wau Wau.

Non-indigenous settlers arrived first during the rubber boom before the turn of the century. Papagaios was then a small trading post (deposito) which served a large seringal. Marechal Candido Rondon passed through the area laying the telegraph lines around 1916 and changed the settlement's name to Ariquemes.

By the close of the rubber boom (1911-12) the seringais extended up the Jamari river which originates in the Serra dos Pacaas Novos, cuts across the present municipality of Ariquemes, and eventually flows into the Madeira. Extraction branched out and up the waterways feeding the Jamari--the Massangana, Rio Preto, Rio Branco, Canaã, Pardo, and Quatro Cachoeiras rivers. To the north and northwest of Ariquemes extraction extended up the Ji-Paraná, Machadinho and Jaru rivers which also lead eventually to the Madeira.

Seringueiros of the Ariquemes area came from Amazonas, Pará, Maranhão, and the Northeastern states, primarily Ceará and Piaui. These early northeastern migrants sought refuge from the chronic droughts in their home region. They traveled up the Amazon and its tributaries expecting wealth but instead found isolation, exploitation, conflict with indigenous peoples, hunger, and as some survivors bitterly recall "a morte a mingua" (roughly, merciless death).

Raimundo, a self-trained nurse who worked in various seringais of the Jamari valley during the 1940's estimated a population of some 1,000 seringueros. He recalled that perhaps half of these men had families of 5 to 10 children living with them at the extraction site (colocação). The remaining half were single men living alone or in pairs. The population was quite dispersed, each site being one or two hours walking distance from the next.

The original settlement of Ariquemes was located just below the confluence of the Jamari and Canaã rivers, about 3 kilometers west of the present center of Ariquemes. The concrete floor of the first deposit where goods were stored still remains where it was set down more than eight decades ago overlooking the Jamari from a sharp rise on the east bank. In later years, particularly in the 1940's when rubber extraction was revived during the war effort, other structures were constructed by several seringalistas who used Ariquemes jointly as an entrepot between their seringais up river and Porto Velho.

The trip down to Porto Velho took about seven days. The return trip was several days longer. Balls of smoked latex were tied together like giant strings of beads to form wide, spiral rafts called "caiapos". Seringueiros who remained in the area said that Amazonenses usually performed this dangerous feat of navigation, being more skilled in this task than others. Other goods and passengers were transported to and from Porto Velho by canoe. During the dry season river

transportation above Ariquemes was difficult and often slow since in some spots the rivers became too shallow. Raimundo described how he often had to drag his patients in a canoe across the river bed for several kilometers.

Stumps of telegraph posts, dating from 1916, may still be found in backyards and gardens of households along the river. The original telegraph station burned down many years ago and its ruins were replaced by gardens of manioc and corn. When in operation the telegraph outpost employed a dozen men to run the equipment and maintain the lines over a 60 kilometer stretch to the north and south. These repairmen (guardas da linha) lived in Ariquemes with their families sharing the duties of inspecting and repairing the lines. In addition to the telegraph personnel there were a number of others living there who worked for the seringalistas: gardeners, messengers, storekeepers, persons to take care of the pack animals and others.

For over five decades the settlement, which probably never exceeded more than 40 to 50 households, did not expand far beyond the banks of the Jamari. The residents of the original settlement site, aging seringueiros and their descendants, still referred to this place as Papagaios. In 1984, however, the residents decided to change the name. It is now called Vila Marechal Candido Rondon. The change came about in reaction to their being called the "Vila Velha" by the rest of Ariquemes which they perceived as somewhat derogatory. The name Papagaios had been maintained in use in

order to distinguish themselves from what they called "Novo Ariquemes". The latter term did not refer to the town center of the most recent settlement (which they referred to as "O Centro" or "A Cidade") but to an airstrip settlement that appeared with the discovery of cassiterite.

Ground transportation in the area before the 1950s was limited to a crude road that had been cut from Ariquemes to Seringal 70, a seringal and trading post 70 kilometers south of Ariquemes. The rubber was transported by land from Seringal 70 to Ariquemes where it continued on by river as there was still no ground route to the Madeira River. Hence, when cassiterite extraction began, the preferred means of transporting the heavy and valuable mineral to river boats in Porto Velho was by air. Space for an airstrip was cleared adjacent to the Papagaios settlement in the late 1950s and a new era of prosperity returned to Ariquemes. Along the air field two rows of houses were built by pilots and merchants engaged in the mining trade. It came to be called "Novo Ariquemes" and soon provided goods and services to a flow of prospectors (garimpeiros) numbering in the thousands by the mid 1960s.

Two of the local seringalistas turned from rubber extraction (which by this time had declined to a small fraction of its former pace) to cassiterite and invested in new stocks of goods; the tools of placer mining. The most successful was Flodoaldo Pontes Pinto whose family still holds a substantial share in the mechanized mining operations

of the TABOCA Company (a subsidiary of the PARANAPANEMA Corporation). The seringueiros who were in Seu Flodoaldo's employ were given the option of participating in the extraction of cassiterite or of continuing in the rubber trade. In reality however, according to those who were given this choice, the support system for rubber extraction soon became unreliable or in most areas collapsed completely. Cassiterite was by far a more profitable commodity for the ex-seringalista upon whom the marketing network of the traditional rubber trade depended.

On the other hand, from the point of view of the seringueiro turned garimpeiro, the change in living standards declined, in spite of higher income. The work was far more demanding and, although the compensation was higher, the costs of subsistence goods rose accordingly. It was no doubt a profitable activity for the more experienced, professional, and single, garimpeiros who migrated to Rondonia during this period. But the ex-seringueiro with a family to support, a family that he might be separated from for long periods of time, had less to gain from the changes that rapidly transformed the slow paced but consistent way of life to which they had adjusted.

Novo Ariquemes did not grow beyond the airstrip since only limited commerce, some storage facilities, and temporary housing for a few pilots were necessary. The garimpeiros camped and worked about 50 kilometers to the west. Another landing strip was located within the mining area where the

planes picked up and delivered cassiterite, subsistence goods, and passengers.

The road connecting Ariquemes to Porto Velho was completed shortly after mining began. Henceforth, the cassiterite was transferred from small planes to trucks and delivered to Porto Velho by land. Just as it had during the rubber era, Ariquemes functioned as an intermediate, transfer stop between two more distant points: the producing area and the market, via the Madeira.

The garimpo was closed by the government in 1971. This action was justified on the basis that placer mining of cassiterite was less efficient than capital-intensive, mechanized operations. The closing was announced on April 15, 1970 (Portaria No. 195) giving the garimpeiros a few months time to make alternate plans. Small aircraft and trucks arrived in Novo Ariquemes to haul the men to camps in Porto Velho. Within a few weeks many of the garimpeiros were transported to other parts of Brazil where placer mining was permitted. As the clerks closed shop in Seu Flodoaldo's airstrip headquarters, the officials of INCRA moved in to begin setting up their own.

Ariquemes and the Agricultural Frontier

When the garimpeiros left, Ariquemes experienced the largest outmigration in its history. Yet, while the garimpeiros were being shunted off the scene, the frontrunners of the agricultural frontier were quietly slipping past and laying claim to land. The new migrants

began settling along the BR-364 as well as along a major side road of this highway, the BR-421, which crosses then parallels the course of the upper Jamari river. Early settlement on both of these roads was characterized by conflicting claims usually resulting from fraudulent sale of lands by land grabbers (grileiros). The major conflicts occurred in the Nova Vida and Seringal 70 areas of the BR-364 where squatters (posseiros) occupied the lands of relatively powerful landowners. Before settlement penetrated beyond the fringes of the highways INCRA took actions to distribute lands in an orderly fashion. A rather bloody conflict that erupted nearby Ariquemes in a place known as Nova Vida inspired the federal colonization agency to speed up its regulatory and distributive actions in the Ariquemes area. Consequently, relative to other areas to the south, the occupation process in Ariquemes was somewhat more organized. However, INCRA's official actions never quite caught up with the pace of new migrants arriving in search of land. The result was rapid growth of the center that is now the town of Ariquemes. In any event, the "newest" Ariquemes was a product of INCRA's land distribution program and its basic layout was planned by the agency in some detail.

The site for the new town was set on the east side of the BR-364 across from the Papagaios-Novo Ariquemes settlements. The town was not located west of the highway in consideration of the fact that the Jamari river floods a large part of the land to that side and would eventually

restrict expansion. Territorial policy also indicated that town centers should not grow up directly on the BR-364 (a policy that went into effect only after several towns such as Ji Paraná, Ouro Preto, Cacoal, Vilhena, and others, had already done so) which would inhibit the flow of traffic and increase the number of highway accidents (cf. Monte-Mor 1980). A number of small businesses, owned almost exclusively by ex-seringueiros and ex-garimpeiros, appeared along the BR-364 and remained there in 1984 in spite of several attempts by municipal and state authorities to have them removed.

The town was loosely modeled, for better or for worse, after Brasilia. Its center, about two kilometers removed from the BR-364, was a long, broad, rectangular quadrant called the Institutional Sector. Located within it were the city hall, the police station, the city council offices, the Banco do Brasil, CEPLAC (the cacau agency), SUDHEVEA (the rubber agency), the Banco da Amazonia, ASTER-RO (the rural extension agency), SUCAM (the malaria eradication agency), SESP (a regional health agency), the town gymnasium, a large primary and secondary school, the bus station and various other offices.

The Commercial Sectors of town were set on either side of the Institutional Sector and were more densely occupied by shops, stores, about ten hospitals and clinics, medical labs, restaurants, bars, a video game parlor, the radio and television stations, real estate offices, lawyers' offices,

brothels, clerical offices (despachantes), about 20 pharmacies, ice cream parlors, and more. Nearly any sort of business could be found there, only ten years after the first trees were felled to make room for a cluster of shacks. In 1983-84, many of the businesses were in the process of reconstruction, changing over from temporary wooden structures to more permanent buildings of concrete and plaster.

The area directly adjacent to the highway was reserved for industrial activities such as coffee processing, mechanical repair shops, lumber mills, construction contractors, etc. This area contained two coffee processing plants, at least 15 auto and truck repair shops, a half-dozen lumber mills, one large construction company, numerous automotive parts stores, and the warehouses of several produce dealers.

Several residential sectors were included in the plan but others seem to have been added as the town grew. In 1984 there were five, with another in the making. The first sectors, one through four, were distributed free to the INCRA colonists as well as to non-farmer migrants.

The internal layout of the residential sectors was such that the houses of each block faced inward to a broad area about 25 meters wide (called an alameda) that separated them from the next row of houses. In these spaces there were to be neatly planned recreational facilities for children. Motor vehicles, horse carts, etc. were to be parked behind

the houses on the sides facing the streets. The recreational spaces were never developed and their appearance varied with the seasons. In the rains they very quickly formed high corridors of weeds, obscuring the view and passage from one row of houses to the next. They were in places an abundant source of squash and various other garden vines. During the dry season the weeds disappeared and the alamedas became enormous trash middens which, actually, seemed to be amusing enough for the local children.

The spacing between the rows of houses gave the impression that the town was much larger than it actually was. Like the city upon which it was modeled, it had an atmosphere of expansiveness; not a very practical consequence of modern design for those travelling on foot. The alamedas literally doubled the surface area of the town and, since they were entirely cleared of forest, increased the temperature as the heat reflected off the barren ground.

There were clear differences in socio-economic level between some of the residential sectors. The larger, more elaborate dwellings of Sector One, the earliest sector to be distributed and the sector closest to the commerical center of town, reflected a higher concentration of wealth. Sector Three, a relatively new addition, was beginning to show an even higher degree of wealth by the greater number of concrete block dwellings under construction. Sector Four was rather mixed; one room houses of rough lumber with plastic roof coverings were often standing beside large, tile roofed,

four bedroom houses with in-door plumbing and attractive concrete verandas. Sector Two had the largest number of lower class dwellings and in places was reminiscent of urban ghettos (favelas) in São Paulo or Rio de Janeiro.

The most recent sector added was Sector Five and was distributed quite differently than the rest. The municipal government decided that this time the town lots would be sold at a price of about 100 dollars U.S. each. One had to submit an application however, to purchase a lot, giving the municipal administration control over who would, and who would not, have the opportunity to invest in this increasingly valuable town real estate. Construction in this Sector had not begun by the time I left the field but it was clear that the purchasers of these lots were generally members of the wealthier classes of town--wealthy farmers, bureaucrats, professionals, businesspersons, etc. Most of them owned and resided on other lots in town and intended to build rental properties or sell the lots for profit.

In 1976 there were about 6,000 residents in the town center, by 1980 there were 13,600 and in 1984 approximately 30,000. By restricting the pace of rural settlement for the sake of organization, INCRA merely traded one problem for another. Would-be rural squatters simply became unemployed or underemployed town residents. Many found work in the informal sector or as day laborers in the rural area.

On the whole, the population of the town was dominated by farmers of the Burariero project, town entrepreneurs,

civil servants, and town and rural workers. The Marechal project farmers were poorly represented in numbers and in political influence. For the most part the small-farm owners who were granted or who purchased town lots before moving to their farms sold those properties. In many cases the sale of these lots was a necessary step in accumulating capital to open up their farms. But as a clientele for the various merchants and professionals, particularly doctors and pharmacists, the Marechal farmers were indeed an important element of the town economy. They represented nearly half of the municipal population. Some Marechal farmers whose rural parcels were within a few kilometers of town made their homes in the town area. Others whose farm parcels were not yet accessible by road also tended to live in town and work for wages. The Marechal farmers living in the rural area tended to visit town at least once or twice a week and usually had a regular place to stay with friends or relatives. The same was true for the relatively smaller number of Burareiro farmers who lived on their lots, but a greater part of these farmers maintained two households. Some of the more successful Marechal farmers maintained a second household in town, particularly when they had children studying beyond the fourth grade since the rural area schools did not offer instruction beyond the primary level.

The largest contingent of town residents, and the fastest growing segment, were landless families in search of employment opportunities (rural and town) or awaiting the

conditions to purchase or receive land. Their presence and growth was increasingly important to the local agricultural economy, in particular to the larger, more capitalized farms that required workers and which would benefit from a downward pressure on local rural wages. This group was also particularly important in the context of town development and the overall quality of life in the town. The disproportionate expansion of the poorest sector in Ariquemes and other town centers in Rondonia severely taxed infrastructural support systems--water, sewage, electricity, road maintenance, health care, etc. In turn, these inadequacies led to an increase in social tensions. A major and always immediate problem for the social services agency in Ariquemes was finding housing for new, unemployed migrants. The availability of town lots for new settlers was no longer what it had been when the earliest migrants arrived.

In 1982, there was a spontaneous occupation, by about 50 squatter families, of what will eventually be Sector Six. Most of them were women and children, the families of men working for wages in the rural area. The concentration of shacks was quietly nested in essentially uncleared forest until local police expelled the residents in an overnight raid. The event did not end there. Facing the social dilemma of several hundred homeless people some local clergy members organized a temporary shelter in the town's new gymnasium. The temporary shelter evolved into a showcase of

social injustice and the despejados (evicted persons) organized an indefinite sit-in. They stated that they would only leave the gymnasium when town lots were arranged for all of them elsewhere.

Recognizing the political expediency of resettling the despejados the mayor authorized their removal to a part of Sector Five. That is where they remained in 1984; without the utility services or regular road maintenance enjoyed by the rest of the town's residential areas. Ariquemes earned its first official slum.

After this controversial eviction occasional squatting on municipal land was swiftly remedied. In early 1984, for example, an 80 year old woman was literally carried out of her forest shack by local police when verbal persuasion failed. Her meager dwelling was destroyed and she was placed into the care of the social services agency (SETRAP). Much to the municipal administration's advantage the population of potential squatters was not large enough or sufficiently organized to elaborate and execute the sorts of massive overnight squatting strategies developed by urban lower classes in larger urban centers such as Porto Velho, Brasilia, São Paulo, and Rio de Janeiro.

Sector Five also included a federally subsidized housing project of 400 concrete block dwellings constructed in 1981. The units were financed by the Banco Nacional de Habitação (BNH). They were located, incidentally, only a stone's throw from the new shanties of the famed despejados.

The sale of housing in this particular project reflects a central aspect of the town's growth and the process of socio-economic differentiation: the value and economic function of town real estate.

Due to bureaucratic, inter-agency disagreements the subsidized housing remained unoccupied for over two years. When at long last the municipal government took charge of the development the downpayment set for each house was so high that only professionals, successful businesspersons and some civil servants could possibly afford them. Although the downpayment was high in relation to cash available at any one time to most households (about \$100 U.S.), the overall cost, payable over a 20 year period, was indeed negligible. Most of the houses were bought up quickly and rented out at rates several times higher than the low mortgage payments.

The municipal income from the sale of these units (though the municipality only receives a portion of the payments) and of other town properties such as the lots in Sectors Five and Six was earmarked by the municipal administration to be used for the partial financing of a municipal development company. The appropriation and sale of the untitled lands occupied by the residents of Papagaios, Novo Ariquemes, and other areas adjacent to the town was also being considered by the municipal government as a means of generating funds. When established, this entity (the Development Company of Ariquemes), was intended to act as a contractor and construction company for various municipal

works, primarily town improvements. Ownership of the company was 80 percent public (i.e. belonging to the municipality) and 20 percent private (i.e. belonging to private investors).

The individuals who conceived the idea and promoted it with the municipal authorities were, of course, the major private investors. Such entities are not uncommon in most Brazilian urban centers (they are one type of the generic term "sociedade mixta") and present an interesting problem in terms of economic development. What differentiates this sort of company from an entirely state run enterprise is that the private entrepreneur may purchase stock in the company and receive dividends on that investment. Briefly, the end result is that the company profits return to the private investors in the form of dividends and increasing value of the basic shares. Profits come from the municipal coffers which, filled by taxes collected in various ways from all citizens, pay the company to perform its services. The profits (and hence the dividends) merely represent a margin created in the transaction between municipal funds and the company account. Members of the community with the resources to invest, and with access to the investment possibility through personal networks, are able to reap a profit from civil works like any private enterprise. In effect it represents a mechanism for the transfer of value from the citizenry at large to a selected and privileged few.

The town was in itself the locus of social and economic interactions which had their own special dynamics related to

the conditions of town expansion. One example is the transaction and rental of town properties which became an important mechanism for capital accumulation. The inflation of land values in the town during 1983 was roughly 600 percent, or about 400 percent above the general inflation rate. Clearly, it was an attractive investment for local capital, an investment that rural landowners with adequate resources did not hesitate to make. There were no less than five real estate agencies in town. A major part of their business was in the purchase and sale, or management of transactions (and rentals) of town properties.

The town economy was not, of course, unrelated to the rural economy. The two developed along parallel courses as a function of their basic unity. They were each part of a single and integrated process of economic growth. The evolution of socio-economic differences and relations between social classes in the community (both rural and town) was in many ways related to the specific functions of the town in the agricultural economy.

Town and Countryside

The town is a center of such cultural activities as religious worship, soccer games, cinema and other diversions. More importantly, however, it is also the place where basic services, commerce, bureaucratic institutions, and political interactions were centered. Each of the latter was of major significance in the formation and maintenance of unequal relations within a stratified rural economy.

The town is a service center for the rural population. Most important among the services provided by government and by private entrepreneurs are those related to education, health, and financing of agricultural production.

Educational facilities in Ariquemes began with a single schoolhouse and several teachers; enough to handle about 200 students. In 1984 there were over a dozen schools, the largest having a capacity for over a thousand students. Educational facilities were at first limited to primary education but rapidly expanded to include secondary level instruction. By 1984 the town could even boast of its college extension program, through the Universities of Porto Velho and Pará, and of a two-year college for agricultural technicians that was under construction. Night classes were also provided for adults through the department of education. The adult education programs included basic literacy instruction, accelerated secondary school instruction, as well as vocational instruction in typing, accounting, business management, and other office occupations. There were also several privately owned secretarial schools.

Educational facilities in the rural area were limited, as noted above, but were being complemented through new programs which will be discussed later. The schools in town were only accessible to farmers who could make arrangements for the support and supervision of their children in the town. Therefore, only a small proportion of the rural

population could take full advantage of the educational programs. Children of farmers who could reside in the town, of farmers who could afford to maintain a rural and a town household, or of farmers who were fortunate enough to find guardians for them in town, had a decided advantage over the children of poorer rural households. (Even the children of poor, wage laborers living in town were in a better position in this respect.) Hence, the existence and progressive development of more advanced educational facilities in town contributed to a widening socio-economic gap, in terms of occupational opportunities and quality of life, among the younger generation of pioneers.

The benefits of literacy and higher education, while not a particularly central question in a causal analysis of economic development, are, nevertheless, important tools in a modernizing society. Distribution of educational opportunities in Ariquemes favored certain segments of the community and did not, for various reasons, reach others. Over the long term, i.e. across generations, this may contribute to the maintenance of the unequal distribution of economic opportunities. Illiteracy is not a cause of underdevelopment but the relative distribution of education becomes an important mechanism in a society that places a high economic value on certain types of knowledge and consequently, on certain occupations. When looking at the town's role with respect to the provision of education, it is

important to keep in mind who, specifically, is provided for and who is not.

Health services can be viewed in a similar framework since their distribution was likewise differentiated in terms of rural vs. town health facilities. But more importantly, the town as a center of health care raises the question of health as a commodity since medical examinations, treatment by physicians, laboratory work, and pharmaceuticals were for the most part purchased from private sources.

The local, state, and federal governments did provide subsidized health care but were far from capable of handling the demand for these services. Two government hospitals and several clinics were maintained by various government agencies. Throughout the year these institutions were overburdened with patients, primarily suffering from malaria, intestinal problems, dehydration, and trauma. At the beginning and end of the rainy season (approximately October and April, respectively) the incidence of malaria tended to skyrocket. At these times it was not uncommon to find three persons per bed in the government hospitals and all-day waiting lines of in-coming patients.

The private sector included nearly a dozen small hospitals and clinics and over 20 pharmacies. In emergency cases even the poorest farmers and workers would go to private doctors to avoid waiting for hours, or possibly being turned away from the government hospitals. Not all, but several of the local physicians would take in patients

without the immediate means of paying for medical services. Payment could be delayed for a few weeks or perhaps a couple of months with correction of the bill for inflation. One night in the hospital, not including special charges for medicines and laboratory work, cost on the average an amount equal to a monthly minimum wage (approximately \$30 to \$40 U.S.) Frequently, however, the private hospitals would have empty beds when the government facilities were crowded beyond capacity.

As is commonly the case throughout Brazil, pharmacists perform many of the functions of physicians and nurses. In addition to selling medicines, the pharmacists generally offer diagnoses and administered treatments within their means. By law, they are prohibited from making diagnoses but do so nonetheless. For the poorer classes they fill an important gap in the health care system which is certainly related to the prohibitive costs of private hospitals and physicians.

The medical establishment in Ariquemes is a booming business. Doctors, pharmacists and owners of medical laboratories were found to be the major recipients of cash income generated in the small-farm sector. Medical expenses were consistently indicated as the major household expense in a survey of small-farm households. They also appeared to be the major expense for poor, wage laborer families. Capital accumulation among medical professionals was quite evident in the rural and town landholdings of doctors and pharmacists.

The largest individually owned cattle ranch in Ariquemes belonged to a well established physician. Another physician owned several dozen rental properties in the town. Some of these professionals had major investments in Rondonia's gold-mining sector as well.

Health care as a basic necessity and costly commodity was a major economic link between the farming population and the town. A precise measure of the transfer of cash value from the farm sector to the town economy could not be made on the basis of this research. But its relative significance, particularly for an important segment of the local upper class, is quite clear. The health care/ health commodity system combined with the continued high incidence of malaria and the lack of success in eradicating this major health problem is an issue that would easily lend itself to Marxist economic argument. I am not aware of any formal studies that have dealt with the issue for the Rondonia case but the farmers themselves frequently brought up the basic elements of such an analysis. The farmers were not unaware of the fact that malaria was the basis for a large accumulation of wealth in the town and on occasion some farmers stated that they believed there could be no eradication of malaria "because too many powerful individuals gained from its presence".

The health question is, of course, too complex to be reduced to an economic argument. Nevertheless, the farmers' perceptions highlight the exploitative and interdependent

relationship between this particular service sector and the rural population. Health care was more than a service provided in the town. It was the basis for a very important economic exchange between the town and the countryside which, overall, favored the town economy and was an especially severe drain on savings in the rural area.

The town was also the locus of another basic service, agricultural credit. There were several banking institutions in Ariquemes. The most important for the farmers' were the Banco do Brasil (BB), the Banco da Amazonia (BASA), and Bamerindus. These banks were the major sources of rural credit. Two new banks opened in 1983-84, the Bank of Rondonia and the Comind Bank. The latter institutions did not yet play as large a role in the financing of agricultural production. Between them BB, BASA and Bamerindus, financed production of cacau, coffee, rubber, food crops, and investments in agricultural machinery.

Bank loans were particularly central to rural development in Ariquemes but agricultural credit was also applied to town investments on a major scale. Much of the plentiful credit for planting cacau in the Burareiro project was applied by Burareiro landowners to the construction of homes or small businesses in town. Likewise, credit for food crops was frequently diverted from rural uses to investments in town businesses. In fact, during one year an entrepreneur and bureaucrat managed to divert most of one bank's funds for one food crop to the construction of a supermarket. This

case provides an example of how certain classes could divert funds to inappropriate uses. In effect, town based entrepreneurs could often compete more effectively for credit that was intended for agricultural production. This competition was only possible given the nature of lending in this society. Getting a loan, and getting away with using it for purposes other than those specified in the loan contract, was often a matter of who the borrower knew and their financial status. The small-farm owners often commented on their distaste for the banks and bankers. Since they were poor, they said, the bankers did not treat them with respect. While wealthier farmers and businessmen did not have to wait in lines, they (the poor farmers) would have to wait for hours--sometimes only to be sent away without being attended. Personal networks and socio-economic standing are usually the keys to successful banking throughout Brazil.

The small-farm owners often expressed a feeling that borrowing from the bank, especially given rising interest rates, high inflation, and low farm prices, was tantamount to "working as a sharecropper for the bank". This sentiment discouraged many from applying for operating capital (*custeio*), for cash crops or food crops. In their experience the use of bank credit meant that, since they would have to harvest and sell their crop fast enough to make the repayment of the loan, they would not get a favorable return on their labor. In the case of rice, which was generally the only food crop grown for sale by the small-farm owners, the risks

of spoilage and loss of the crop were high. If they were thereby unable to repay the loan they would have to pay even higher interest. In the case of coffee, their experience with consistently low prices for the crop and constantly rising costs of production already reduced the margin of profit. If they borrowed money from the bank, the interest could take away yet another portion of the decreasing profits. On the whole the farmers who operated with little or no savings felt that the banks only took from the farmer what he had paid for in hard work.

The town as a center of commerce provides sources for agricultural inputs, food staples, and other consumer goods. There were several dozen stores frequented by the farmers who usually went to town on a regular basis (each week or month) to buy household items such as salt, sugar, oil, soap, macaroni, beans, yeast, and wheat flour. Less frequently the farmers bought pesticides, barbed wire, herbicides, seeds, and fertilizers. Usually the farmers had preferences for particular stores but long term relationships between farmers and merchants based on credit were rare. The high rate of inflation may have contributed to the absence of such relations.

Ten produce buyers had warehouses in the town. Some of them sent trucks out to the rural area while others depended on local, independent transporters to bring the produce to town. There were four coffee buyers and four cacau buyers, the remainder dealt in rice, beans, corn, and rubber. These

entrepreneurs were the most important link to the town from the perspective of most rural based farmers. Exchange of crops for cash with these middlemen (intermediarios) was the major source of cash income, particularly for the majority of the small-farm owners growing coffee but also for a smaller number of Burareiro cacau growers who lived on their farms and practiced farming exclusively. Few of the farmers had strong ties to one middleman or another and they tended to inquire about prices being paid by the various buyers before concluding a transaction. Since competition was rather limited and since outlets beyond Ariquemes were not available to most farmers, the middlemen tended to exploit the farmers severely. Often the prices paid for produce, especially for rice, were well below the minimum price determined by government policy. Farmers with loans due could not wait long after the harvest for higher prices. Generally, most farmers could not wait long to sell produce because the cash was usually needed for household and medical expenses.

The government installed a system to buy farm products (CIBRAZEM) but this agency was rarely used by the farmers themselves. Most farmers did not want to go through the lengthy bureaucratic process. In any event, the middlemen tended to monopolize the government warehouses by acquiring the major part of the agencies stock of the special sacks that had to be used.

Bureaucratic and political institutions were a crucial aspect of the town's role in the agricultural economy. This

subject will be considered again in Chapter Six. It would be appropriate to end this overview of the town's role with a characterization of bureaucracy and politics as they relate to the two major classes of farmers in Ariquemes, the coffee growers of Marechal and the cacau growers of Burareiro.

Briefly, the instruments of political and bureaucratic control were clearly in the hands of a limited class which had its economic base in three major areas: extensive landholdings, cacau production, and diverse town enterprises. The small-farm owners of Marechal (and some outside of this project) had little direct influence in the major political parties or in the various agencies of the government bureaucratic apparatus. Their only influence was in their potential to organize demonstrations and in their potential to make demands as a constituency vis a vis local politicians. As a political structure dominated by the local upper class, which exercised a strong influence on the operation of local bureaucratic institutions, the town was essentially alienated from the majority of the farmers. In reaction, a segment of the small-farm owners did begin to organize themselves outside of the guarded boundaries of the established political and bureaucratic network. In this instance the town provided a physical meeting place for a very dispersed class of farmers and a public arena for limited demonstrations of protest.

In summary, human occupation in Ariquemes was significantly transformed with the arrival of the

agricultural frontier. The extractive phases based on rubber and cassiterite did not provide the conditions for permanent settlement and sustained town growth. Agriculture and the opening up of Rondonia to markets for agricultural commodities represented a major shift making necessary the emergence of a town. At the same time, the particular model of settlement adopted by INCRA had a major influence on the specific social and political characteristics that the town would assume. What is most important with respect to the town in this analysis is that the consequences of its growth are quite different for different classes in the agricultural community. For the Burareiro class the town became (or was made) the seat of its economic and political superiority. For the Marechal class the town seemed to siphon off, in various ways, the value of its labor.

CHAPTER FOUR THE MARECHAL FARMERS

Background

INCRA began surveying the Marechal project in 1972 and settlement of families on 100 hectare parcels was initiated in 1975. Originally the plan aimed at the distribution of about 4000 lots, but by 1982, 4767 parcels were distributed, covering an area of 494,661 hectares. The Marechal project represents 48.4 percent of the land in Ariquemes' various INCRA projects. After the first distribution, in 1975, of 400 lots, INCRA continued granting parcels in Marechal over the next six years: 623 in 1976, 407 in 1977, and 790 in 1978. The remaining 2,547 lots were distributed between 1979 and the end of 1981. The official figures on distribution however, did not reflect the actual rate of settlement by farm households. In fact, nearly 30 percent of the parcels were still unoccupied in 1984 due to the absence of access roads in certain parts of the project. However, in 1984, there were well over 5,000 families living in Marechal including landowners, households of families related to the owners, and households of hired workers.

The soils of the project vary greatly from farm to farm and also vary within the boundaries of individual farms. The farmers' classification of soils was based mainly on color

and sand content and distinguished three broad types: vermelha, mixta, and arenosa-amarela. Their soil classification resembles one described by Margolis (1973) among farmers in Northern Paraná, the prior residence of many Marechal farmers. However, soil qualities and agricultural potential differ significantly from the soils of Paraná.

Approximately 50 percent of the soils are Red-yellow Latosols. These are generally deep, acid, and of medium to low fertility. They do not present serious erosion problems and react well to fertilizers but are poor in chemical content. When used for perennial cultivation they can be conserved by simple methods (Neves and Lopes 1979).

Nearly 40 percent of the soils in the project are Red-yellow podzolic soils which were usually shallow, acid (pH 4.0 to 5.0) and generally require intensive conservation. Clearing and burning of the forest cover tends to provoke rapid degradation but this can be avoided by cultivation of perennial tree crops in combination with intensive conservation practices (Neves and Lopes 1979).

The area also contains smaller quantities of Red-yellow Eutrophic Equivalent Podsol, Similar Eutrophic PE Structured Terra Roxa, Incipient B (Cambrian) and Litolic RE soils. All of these soils are of medium to high fertility but tend to occur in rocky and highly undulating areas thus posing greater problems of erosion. Throughout most of the project

drainage was good and most of the parcels had access to streams or rivers (Neves and Lopes 1979).

The grantees were not given the opportunity to choose the parcel INCRA gave them although in many cases related grantees could choose to receive adjacent parcels. INCRA did not officially approve of the exchange or sale of parcels but in a few rare cases some farmers were able to trade their first parcel for another. Some did so through INCRA while others sold their land grant and purchased another parcel elsewhere in the project.

The majority of the farmers in Marechal were previously residing in the Center-South of Brazil, primarily in the state of Paraná. The states of Mato Grosso do Sul and Mato Grosso do Norte, were also major regions of origin. But most of the migrants who came directly from these states indicated prior residence in Parana or other states such as São Paulo, Rio Grande do Sul, Santa Catarina, and Espírito Santo. Very few migrated directly from the Northeast, or other northern states. Table 4.1 shows the distribution of settlers by state of prior residence based on my household survey.

The selection of grantees involved ranking the applicants on the basis of several factors: experience in agriculture, size of family labor force, and marital status. The only restrictions were that single men or women could not apply for a lot and applicants could not own land elsewhere in Brazil. Family size was not in itself as important as the

Table 4.1
Place of Previous Residence

Paraná	70%
Mato Grosso	7%
São Paulo	6%
Espirito Santo	6%
Santa Catarina	1%
Amazonas	1%
Paraguay	1%

age and sexual composition of the household. Older children and males were preferred over females who earned only 80 percent as many "points" as males in calculating the total family labor force. The ranking was followed by an interview in which the head of the household was tested for his or her knowledge of farming. Many of the grantees in Marechal were already selected to receive land in other municipalities where there had not been enough small land grants for all applicants. Even in the Marechal selection process there was an excess of over two thousand applicants who likewise would have to wait for INCRA to open other settlement projects.

The Marechal project is divided by the Jamari River. The river cuts across the project unevenly, leaving about 80 percent of the project on the left or west bank. The residents on the east side had the advantage of direct access to the BR-364 highway while their counterparts on the west side had to depend on the precarious and interrupted services of two ferry crossings. These ferries, which when operating could carry from one to six vehicles and several dozen passengers, were approximately 30 kilometers apart.

A few kilometers to the southwest of Ariquemes the Canaã river flows into the Jamari, which turns westward at this point. Between the Canaã and the Jamari is an area encompassing about 200 lots that, until March of 1984, could only be reached by canoe. This section was sparsely settled although all the lots had been distributed. Much of the area was still being exploited by rubber collectors whose families

had been in the area for several generations. Due to the near impossibility of transporting produce from this sector, there was very little surplus production of food crops or perennial tree crops. Some new migrant families had settled in the area and taken up the extraction of rubber and brazil nuts. These commodities were brought down river or were carried to the BR-421 highway to middlemen (marreteiros) who paid them in cash and/or in supplies.

The farms established along the BR-421 highway represent another area of special interest. The lands along this second major road were among the first to be settled. Much of these roadside lands were claimed by squatters who actually preceded INCRA's arrival. These lands were also the most disputed by conflicting claims. All of this area flanking the Jamari and Canaã rivers was previously divided among several seringalistas. When INCRA arrived much of the land was then appropriated for the Marechal project, except for the lands of small and medium sized farms. Because of the irregularities of land tenure INCRA did not begin demarcating and titling farms along this road until the rest of Marechal was distributed. Then they began dividing some properties into 100 hectare or 250 hectare parcels, while others were left as they were. Consequently, there was more diversity in size of landholdings along the highway; holdings as small as 30 hectares and others exceeding 1,000 hectares. What most determined the final product of INCRA's "regularization" of the BR-421 farms was the influence of the

claimant or the disposition of INCRA officials. Some claimants whose lands were appropriated in large quantity were still in litigation.

Along the BR-364 highway there was a similar diversity in size of landholdings. There was a higher degree of land concentration and absentee ownership along the highway, either because large areas were claimed before INCRA arrived and were successfully defended from appropriation, or because the rapidly increasing land values stimulated the sale of smaller holdings. A very large part of this land was planted in pasture and dwellings along the highway were few.

In 1984, approximately 72 percent of the Marechal farmers who resided on their farms were INCRA grantees and 28 percent purchased the land from the original grantee or a subsequent owner. As it was not possible to gather information on landownership in the unoccupied areas of the project, these figures should not be taken as a precise reflection of the number of grantees who sold their farms. Since conditions for settlement were relatively worse in the unoccupied areas, due to inadequate access, it is likely that there was a higher percentage of farms in these areas that were sold by the grantees.

A rough estimate of land concentration within Marechal could be made based on the number of farmers who acquired additional land beyond the first parcel they received or purchased. Among the farmers surveyed only 15 percent (n=71) acquired additional land. None of these farmers accumulated

more than one additional parcel of 100 hectares. The acquisition of new lands by farmers within Marechal did not appear to be as significant as the increasing purchase of Marechal parcels (generally for speculation) by farmers and investors residing in town, whose primary economic interests were cacau production in Burareiro and/or entrepreneurial activity in the town center. Coffee production did not generate sufficient savings for major investments in land among the Marechal farmers. Cacau production in Burareiro and the booming commerce of the town were, however, providing a relatively stronger demand for a growing number of Marechal parcels on the market.

One qualification should be added regarding land concentration in Marechal. The smaller portion of Marechal to the east of the Jamari river, especially the area that bordered directly on the Burareiro project, showed a higher degree of land concentration. There was a greater demand for parcels in these areas since they had better access and this was clearly reflected in much higher prices for these lands. In this part of Marechal one could find five or six contiguous lots with a single, usually absentee, owner. Similar concentrations were not encountered on the opposite side of the Jamari.

The farmers generally shared a common experience in the earliest stage of exploiting the new land. When the lots were distributed to the colonists the first action, as part of the agreement with INCRA, was to clear a small area of the

parcel. Few farmers cleared more than one hectare, usually just enough space to set up a temporary dwelling that could serve as a shelter during future visits to the farm. Before 1979, when roads were opened up on a major scale, travel to most of the farms was possible only on foot. Colonists walked as much as 40 kilometers to reach their land, carrying with them a sack of provisions and tools and sometimes a chain saw. Neighbors and relatives often traveled together in groups of two or four (usually males only) and would spend approximately 15 days working on their respective farms or working together. The time to return to town was commonly determined by the malaria that seemed to strike inevitably on every trip. If lucky, the colonists would return to town only when provisions were depleted. Trips to the farm did not normally follow a regular schedule. The household members participating in these trips did so only when the basic needs of the family were secured by wages earned by one or more members of the household.

Of the farmers surveyed, 78 percent worked on the farms of the Burareiro project, on other large farms near Ariquemes, or on farms in Jaru, Ouro Preto, and Ji Paraná, before moving to their own farms in the Marechal project. Twelve percent worked in the town of Ariquemes as truck drivers, waiters, carpenters, saw mill workers, etc. A few worked as manual laborers for the large cassiterite mining companies nearby. Nine percent worked in both rural and urban occupations.

One farmer, Paulo, and his kin, received several adjacent land grants in 1975 but did not move to their farms until 1978. Their INCRA parcels were about 30 kilometers west of the BR-364 highway and about 50 kilometers from the town of Ariquemes. At the time they did not have money to prepare the land, plant crops and set up a household in the rural area. Nor was there a road leading to their farms, only a small path marking where the road would later be constructed. For their first three years in Ariquemes they had to find employment to support their households.

They came to Ariquemes from the north of Paraná where Paulo and his wife Anna had lived for over twenty years. Both Anna and Paulo moved to Paraná from the northeastern state of Bahia as young children. Paulo's father and brothers still worked as sharecroppers in Paraná but Anna's parents and all but two of her six siblings had moved to Rondonia together. She married Paulo only a few years before her family decided to migrate and they already had three children at the time. In Paraná they were accustomed to moving every four to six years from one sharecropping job to another. Several times Paulo's father bought land in Paraná, though never more than ten hectares, and several times sold it to pay debts or because the land was "tired" (cansado). Paulo moved in with Anna's family after they married and worked with her brothers as sharecroppers and day laborers on various farms.

They learned of Rondonia from other people in Paraná who had already migrated and received land from INCRA. They were almost twenty in total, between adults and children, when they hired a truck to bring them to Ariquemes. None of Paulo's siblings migrated but one of Anna's brothers and his family, two of her unmarried sisters and her parents all came together. Anna's eldest brother stayed in Paraná with his wife and children just in case things did not work out and the others decided to return. But less than a year later he decided to follow and sold the few cattle he had and a few that the others left behind.

When it seemed that it would take a long while to move into the Marechal project Anna's parents moved with the unmarried daughters to a place beyond Ariquemes. There they made a claim a few kilometers off the BR-364 highway leading to Porto Velho. They had occupied the parcel as squatters (posseiros) but in a couple of years INCRA measured and gave them title to the land.

Paulo and Anna's two brothers did not do much on their farms until 1977 when they planted some rice and beans. Most of the time Anna's brothers worked together planting cacau for a Burareiro farmer who paid them a lump sum in cash and let them grow a field of rice on his land. Paulo helped them out on occasion but he worked primarily in the town as a carpenter. They all decided it was best for Paulo to stay in the town so a man would be with the women and children. It also meant more income since the cacau planting job was

contracted for a flat fee. Furthermore, Anna's brothers were always coming down with malaria which they attributed to the fact that they spent more time in the countryside. If Paulo stayed in town there was less chance, they thought, that all the men would be sick with malaria simultaneously, leaving no one to work but the women. They soon found out that they were mistaken and that no matter where they were they could all just as easily fall ill. On several occasions everyone in all three households had malaria at the same time! The costs of medicine, doctors' bills, and hospital charges depleted their small cash income faster than they could bring it in.

The first rice crop and part of the following two were lost because they could not transport them to town. What they managed to save was barely enough for household consumption. They had even less success in planting beans. The women worked also, taking in laundry or doing housecleaning in the homes of INCRA personnel and other civil servants. They managed to get by but were unable to accumulate savings that could help them move to their farms. It was not until the middle of 1977, when Paulo got a loan to plant 8,000 coffee trees, that they were able to take the first steps in that direction.

With the loan Paulo and Anna's brothers could work less for other farmers and begin to spend more time preparing their own land. They shared the loan money between them and planted coffee trees on two of the three parcels. Most of the

trees (7,000) had to be planted on Paulo's farm or the bank might cancel the loan. They also planted rice, corn, beans, manioc, fruit trees, melons, coconut palms, peanuts, squash, and other subsistence crops. One of Anna's brothers, who considers himself an expert in home remedies, made a garden containing a wide variety of medicinal plants. By the time they moved to their farms they had one adequate harvest of rice and a variety of other crops in the ground. Paca, mutum, wild pig, armadillo, small deer, and other wild game were more plentiful in 1978 than in 1984 and they ate meat almost daily.

Like Paulo and his in-laws, virtually all of the farmers in my household survey had long term experience in agriculture. While most had experience planting and maintaining coffee, in particular those from Parana and Sao Paulo, others had experience in cash crop production of cotton, soybeans, or tobacco. Most were also experienced in the establishment of pastures. All had a wealth of knowledge concerning subsistence production, including rice, beans, corn, peanuts, squash, fruit trees, medicinal plants and many other garden crops, as well as traditional practices of animal husbandry. But like all human populations starting out in an environment unlike their region of origin, these farmers had to learn from other settlers, from extension agents, or by trial and error, to account for different material conditions that were new to them.

The fact that settlement in the rural area was delayed for various reasons held one advantage for these farmers: they were able to learn of and devise strategies to cope with, some of these unfamiliar conditions and the problems they posed. They were then better prepared to face certain unfamiliar hardships. Paulo, for instance, learned some of the peculiarities of rice production in this region. He learned that the crop would grow more quickly and taller meaning that the stands could be easily tumbled over by the heavy rains. To cope with this he could plant fewer grains together to produce less massive and less vulnerable clumps of grass. Paulo's brother-in-law learned of new medicinal plants for relief from the side effects of malaria treatments (primarily "swelling" of the liver) and for parasites and incorporated them into his garden. These he learned of from various people but mainly from Sergio, a native Rondonian who married one of his sisters and later came to be their neighbor. They also learned that it was essential to maintain some kind of small savings to pay for health care. This they attempted to do by keeping one or two pigs as a ready store of cash value in addition to other pigs raised for consumption.

Subsistence and Commodity Production

The farmers of Marechal engaged in various economic activities in order to support the household and increase the value of their farms. They planted crops and pasture, raised animals, hunted, caught fish, and gathered resources from the

forest such as fire wood, heart of palm, brazil nuts, and sometimes rubber. They also exchanged labor and perishable goods with neighbors, contributed labor and raw materials to community projects such as schools, churches, bridges, and road repairs. Members of many farm households periodically worked for wages on other farms.

They constructed their dwellings of lumber which was usually cut by local saw mills in exchange for the more marketable woods found on their property (cedro, mogno, castanheira, and others). A small number of farmers constructed more durable houses of brick and plaster. Building materials were usually made using family labor and raw materials found on the parcel.

They prepared the land by clearing and burning the primary forest (and on rare occasions secondary growth) and burned pastures each year as well. The hoe and machete were the primary farm implements, though a few used oxen and mules for pulling carts and, very rarely, plows. The use of chainsaws was not uncommon but few farmers owned this tool. Many borrowed chainsaws from friends or relatives to use when clearing forest. Most had manual devices for planting seeds and applying chemical agents to control pests and weeds.

Nearly all of the farmers had at some time borrowed money from the bank to plant coffee and annual food crops or to buy farm implements but in 1984 few of them foresaw returning to the bank for other loans, discouraged by high interest rates and low farm prices. The farmers strove to

maintain and increase farm production from year to year by various other means before considering loans. Cash to invest in the farm could be obtained by marketing surplus rice and coffee, by raising pigs and cattle, or by working for wages. They tended to prefer these means of acquiring investment capital, even if it meant slower progress.

The number of nuclear families living on each of the parcels surveyed varied from one to five. Single-family farms made up the greater part of the sample, about 70 percent ($n=75$); two-family farms constituted 19 percent, three-family farms, 9 percent, and four- to five-family farms, 2 percent of the sample. Household size ranged from 1 to 10 members and the average household size was 5.8 members per household.

The number of workers per household ranged from 1 to 9; children 14 and under, male or female, were counted as one-half a worker. The average number of workers per household was 4.3. Only 29 percent of the households operated the farm exclusively with household labor. Table 4.2 separates the quantity of household labor into several categories and compares this to recruitment of labor from outside sources, i.e. hired labor, labor exchanged with neighbors, or hired sharecroppers. Columns (2) and (3) indicate the percentage of farms in each category which did or did not use outside sources of labor (including sharecroppers). Column (4) indicates the percentage of these farms that hired sharecroppers.

Column (2) of Table 4.2 can be divided to show the relative incidence of different types of employment. Of the farmers who employed non-family labor, nearly 25 percent contracted sharecroppers. Sixteen percent hired wage workers only and 20 percent only exchanged labor. Nearly 40 percent both exchanged and hired labor. These figures show a tendency to use forms of labor recruitment that do not require cash. Many farmers who did not contract sharecroppers at the time they were interviewed indicated that they were considering doing so in the future. The most frequent reason given was that they could not manage their coffee with family labor alone and did not have cash to pay workers. Furthermore, the farmers often felt that it was becoming more difficult to find neighbors willing to exchange labor since "everyone was too busy with their own problems".

Hiring and labor exchange were for the most part seasonal, peaking during the harvests of rice and, to a lesser extent, coffee. Generally, more outside help is necessary for the rice harvest since it must be completed during a shorter period of time due to the rains. The major rice harvest coincided with the peak period for malaria which often reduced temporarily the amount of family labor available. Coffee farmers indicated that as the trees got older they needed more attention--for regular maintenance and for the larger harvests. Hence, many of them had hired, or were considering contracting sharecroppers. In a number of

Table 4.2
Sources of Labor

(1) Quantity of Family Labor	(2) Hired or Exchanged	(3) Zero Hired or Exchanged	(4) Hired Sharecroppers
< 3 (40%)	75%	25%	25%
3 < 5 (27%)	79%	21%	16%
5 + (14%)	61%	39%	9%
total (100)	71%	29%	17%

cases I encountered farmers who brought relatives from other parts of Rondonia or from out of state to sharecrop coffee.

The incidence of malaria among the farm households and the resulting effects on family labor must be included in any discussion of labor in Marechal. This particular health problem not only presents a severe drain on cash resources but it also reduces the productivity of working members of the household. Quite frequently the farmers indicated that they were unable to work for a total of 30 to 60 days out of the year. Often the farmers could not work because they were ill with malaria themselves or because they had to accompany ailing spouses or children into town for treatment.

Given the recurrent nature of the disease, the study of malaria "cases" is highly problematic. The data presented here are impressionistic in comparison to the sort of study the problem merits. Inclusion of these figures on malaria are only intended to give some idea of the magnitude of the problem.

Table 4.3 shows the number of cases recorded per household within the six month period preceding the interviews. In many instances the informant simply declared that they or another member of the household lives with malaria "constantly" (direto), i.e. that malaria was almost always present in some individuals.

In financial terms, malaria might or might not have been costly depending on the type of malaria, the form of treatment, and the household member for whom treatment was

Table 4.3
Malaria Cases by Household
(over a six month period)

number of cases per household	percentage of households
0	20.8
1-5	45.8
6-10	11.2
11 +	5.5
Constant (Direto)	(16.7)
1 member	4.1
2 members	2.7
3 members	5.5
4 members	4.1

sought. For example, the head of the household and infants were usually treated by a physician or pharmacist. One could find, however, that women and small children (excepting infants) were often treated only with home remedies and/or free government medicine. Household heads also relied only on these sorts of treatments to cut expenses.

However, the free medicine (primarily chloroquine) was frequently not an effective cure for falsiparum malaria, the most prevalent form. It generally cured cases of vivax malaria, the other major variety. Many households stocked a variety of pharmaceuticals and home remedies for self treatment. Often home treatments provided symptomatic relief but did not cure the malaria. Such symptomatic, short term treatment was a common practice when labor demands on the farm were critical and it was not unusual to find individuals continuing their work even between debilitating attacks of fever and chills.

Overall, malaria and other health problems such as gastrointestinal diseases and hepatitis, were a major drain on labor and a major cash expense. Over 60 percent of the farmers interviewed indicated that health care costs were the major cash expense of the household.

Although household labor was divided between subsistence activities, coffee production, and wage labor, the greater part of household labor was devoted to various subsistence crops, farm animals, extractive activities, food preparation, cleaning, and maintenance of houses, sheds, animal pens,

fences, tools, etc. The production of surplus commodities was generally limited to rice and coffee, although a few farmers were beginning to plant cacau and rubber trees and a few grew citrus fruits for sale. Surplus production was an important part of the household economy but subsistence oriented activity took up most of the household's labor time. Wage labor off the farm was usually an intermittent activity that farmers resorted to in emergencies. Forty-seven percent of the households surveyed indicated that one or more members periodically worked for wages off the farm. Extra cash was often needed to pay off debts in a short period of time or to purchase basic food staples between harvests. But on the whole, the first concern of the average farmer was reproduction of the household as a self-sustaining and independent economic unit that could produce most of its basic needs.

Rice was the major subsistence crop and was planted by all of the farmers surveyed. Rice and all other food crops were usually planted on newly cleared virgin land. The same land was used for food crops for one to three years. Subsequently, virgin land was cleared for these crops and the old fields generally planted in pasture. By continually moving food crops to new areas the farmers could maintain yields without applying fertilizers, pesticides and herbicides which otherwise would have become necessary after a few years. Few of the farmers used any such inputs in rice cultivation.

On the average, farmers planted about 5 hectares of rice and achieved yields averaging 800 to 900 kilograms per hectare. The extension agency recommended the use of various pesticides, fungicides, fertilizers, and herbicides and projected yields of 3,000 kilograms per hectare using their model of rice cultivation (Empresa Brasileira de Assistencia Tecnica e Extensao Rural 1982). I encountered no farmers who followed the extensionists' suggested methods. This could be attributed to the fact that market prices for rice would not have compensated for the costs of modern inputs. Consequently, the farmers did not risk heavy cash investments in rice production. Since the crop was usually ready to harvest towards the latter half of the rainy season, the farmers had to consider two major seasonal problems. First, the likelihood of getting malaria, and being unable to work, was much higher during this time of the year. Second, transporting a surplus to market was often impossible during the rainy season.

Only half of the farmers surveyed produced more rice than they expected to use for household consumption. The average amount of rice these farmers sold in 1983 was 78 sacks (at 40 kilograms per sack). The most rice sold by any of the farmers surveyed was 200 sacks. At a price of \$3.00 to \$4.00 U.S. per sack the sale of rice did not represent a significant source of cash income for the majority of the surplus producers. Even if they were not going to use expensive inputs, the costs of hiring labor to help harvest

and thresh the rice were enough to discourage farmers from planting larger areas than necessary for household consumption.

Corn was produced by all households for consumption; mainly to be used for animal feed. Approximately 35 percent of the farmers produced a surplus of corn and sold an average of 66 sacks (also of 40 kilograms).

Beans were a traditional subsistence crop among the farmers who settled in Marechal. Beans, however, were more often purchased than cultivated. The farmers did not risk production of this crop on a commercial scale (less than 1 percent of the farmers surveyed did so). If grown for household consumption, farmers learned from hard experience to plant only one crop per year at the tail end of the rainy season, what the farmers called dry season beans (*feijão da seca*). It was possible to plant two crops per year if the first crop was planted during the transition period between the dry and rainy seasons (wet season beans or *feijão da chuva*). The difficulty of planting the wet season crop was primarily the risk of fungal growth, although a heavy rain alone could inflict serious damage to the crop. Several fungal diseases were extraordinarily successful in the local environment. The fungus generally appeared as a whiteness covering the leaves of the plant. Usually it showed up in patches throughout a field, then spread rapidly. Unless fungicides were applied on time and in sufficient quantity

the fungus could not be controlled. However, the farmers found the fungicides too costly for such a risky investment.

Dry season beans were likewise a high risk venture. The crop could as easily die from too little water as from too much. Farmers felt that yields during the dry season also failed to compensate for the expenses in labor and capital of planting the crop. When inquiring on the subject of bean cultivation a very common response was: "Beans? Oh, we only plant that for sport!" (Feijão? Ah, isso é nossa lavoura esportiva!).

All of the farm households produced diverse food crops for household consumption including manioc, citrus fruits, papaya, squash, melons, and peanuts. Eighty percent of the farm households maintained small gardens with vegetables such as lettuce, okra, tomatoes, cabbage, peppers, cucumbers, parsley, and kale.

The farmers rarely took out bank credit for food crops. The interest rates were negative, as they were for coffee planting, but the farmers were still reluctant to take out such loans. The farmers might only have to repay, in real value, 50 percent of what had been borrowed. But if the crop were to fail even that could be more money than the average farmer would have on hand. In fact, the Banco do Brasil declared a general extension of the repayment schedule on several occasions for many farmers who borrowed this kind of credit. Farmers borrowed for food crops more often to apply

the money to the care of their coffee, as a supplement to coffee loans that were also declining in real value.

Hunting and other extractive activities were also a significant part of the household economy but their contribution had declined since the early days of settlement. Only 28 percent of the households surveyed hunted wild game on a regular basis. An additional 12.7 percent of the farmers stated that they hunted game, but not frequently and only when no other source of meat was available. Hunting was limited by the progressive depletion of local game and also by the fact that not all farmers could afford guns and ammunition. About 10 percent of the households surveyed did not hunt but often consumed game meat given to them by neighbors and relatives.

Fishing was a more common extractive activity and could be carried out by even the younger children of the household. Fishing as a regular activity was found in 35.2 percent of the households. An additional 18.3 percent of the households fished "infrequently", which usually meant that they would fish only when there was time to leave the fields and other household chores.

Extraction of forest products as a part of the household economy varied widely and was progressively reduced over time. In 1984, less than 3 percent of the households surveyed exploited natural rubber. Practically all of the more valuable species of lumber (cedro, mogno, castanheira, and cerejeira) had been depleted in the settled areas of the

Marechal project. These species were generally sold for cash or traded with saw mills for cut lumber of lesser quality.

Animal production among the farmers of Marechal was also limited to production for subsistence or as a reservoir of cash value to tap in times of emergency. Pigs and chickens were the major small animals produced for consumption. Of the households surveyed, 87.5 percent raised pigs and 96 percent raised chickens (n=80). Pig production ranged from 1 to 60 animals; an average of 12.3 pigs per household (n=67). Chickens ranged from 3 to 250 and averaged 60 per household. Pig consumption ranged from 1 to 12 per year or an average of 5.3 per year per household. Chickens were consumed between 1 to 5 times per week.

Cattle were considered a valuable asset among the farmers of Marechal, primarily as a reserve of capital that could hedge against high inflation and grow in size. Of the farmers surveyed, 44.4 percent owned cattle (n=81). Their holdings ranged from 1 to 18 head, an average of 7.9 head per cattle-owning household (n=36). The main varieties of cattle found on these farms were zebu, neloj and hollandes. The herds were predominantly female given the farmers' primary interest in breeding larger herds.

Pasture was found on 79 percent of the farms surveyed and ranged from 1 to 28.8 hectares. The average amount of pasture per farm was 10.4 hectares (n=65). As was noted above, most of the farmers planted pasture on areas previously occupied by food crops for 1 to 3 years. In order

to maintain yields, reduce the labor involved in weeding, and reduce the costs of pest control, new areas of forest were cleared for food crops and the old areas were seeded with pasture. This resulted in a relatively high ratio of pasture to land cleared. Pasture averaged about 35 percent of the total land area cleared on farms with pasture. Pasture types varied and in many cases pastures were a mixture of several varieties of grass. The most popular grasses, because of their resistance during the dry season, were Colonião and Bracchiara varieties, but one could often find Jaraguay varieties as well.

The ratio of cattle to pasture varied greatly from farm to farm; from 0.3 hectares per head to 13.3 hectares per head ($n=42$). The overall average ratio on farms with cattle was 2.7 hectares per head. Considering only the farms of INCRA grantees (i.e. farms occupied by the original owners) the ratio declined to 1.8 hectares per head ($n=20$). The higher overall ratio (2.7) probably reflected the purchase of farms with established pasture by newer settlers who did not have capital to purchase more cattle, or who had not been on the farm long enough to raise a larger herd.

Cattle were considered an important investment and ownership of cattle was a goal that all farmers hoped to achieve. The value of cattle was perceived mainly as a store of wealth, although cattle were also valued as traction animals and producers of milk for household consumption. None of the farmers surveyed had a large enough herd to sell

cattle on a regular basis. Primarily, the cattle in Marechal represented the accumulation of small amounts of capital that could increase in value in pace with inflation. Apart from purchasing new land (which required much larger savings) cattle were the preferred means of investing any surplus generated from cash crop production.

Coffee was the major cash crop produced in Marechal. Planting of coffee was financed by the government at a negative interest rate of 11 percent per year, i.e. at an interest rate below the level of inflation. Coffee production was subsidized in this manner in order to promote production of this export crop. There were several reasons behind the selection of coffee as the cash crop to be promoted in the Marechal project--and in other areas of Rondonia. First, tree crops are considered more appropriate to the ecological conditions of the region. Planted and managed properly the trees offer greater protection to the fragile soils, sheltering the ground (to an extent) from the leaching effects of the rains and reducing erosion. Second, coffee is an export crop than can generate important earnings for Brazil in terms of foreign trade. Third, the expansion of coffee production in Rondonia is intended to compensate for the declining productivity of older coffee trees in the south of Brazil.

The predominant variety of coffee grown was Conilon, a robust variety, and the only one financed by the bank. One could also find, to a much lesser extent, areas of Catuai and

Chumata varieties. Coffee was cultivated on 80.2 percent of the Marechal properties surveyed; bank financed coffee on 54.3 percent, non-financed coffee on 25.9 percent (n=81). A number of farms (11.1 percent) planted financed coffee and later added more without bank credit. Those who financed coffee through the Banco do Brasil had a minimum of 7,000 to 8,000 coffee trees planted, this quantity being the required minimum imposed by the bank. Those who planted coffee without financing planted quantities ranging from 1,000 to 9,000 trees, the average number of trees being 3,700. Farmers who made additional plantings after financing one area of coffee, added from 2,000 to 9,000 new trees. Approximately 10 percent of the Marechal farmers surveyed financed more than one area of coffee but none financed more than two areas. Table 4.4 shows the distribution of coffee trees among the households surveyed. Of the farms that had planted coffee, 12 percent had not yet begun producing coffee in sufficient quantity to sell a surplus.

Yields varied greatly from farm to farm. Three major factors may have contributed to this variation: the age of the trees, which varied between one and six years old, the natural cycle of the coffee tree, and soil quality.

Coffee generally produces only after it is four to five years old. Therefore, most of the coffee in Marechal was only beginning to produce since most of it was planted in 1979 and 1980. Some farmers, however, gathered small

Table 4.4
Amount of Coffee Planted

Number of trees	Percentage of farmers
<2,000	7.0
2<4,000	16.5
4<6,000	13.5
6<8,000	18.0
8<10,000	16.5
10<12,000	9.0
12<14,000	6.0
14,000 +	13.5

harvests when the trees were as young as two years old. One farmer harvested 15 sacks (60 kilograms per sack) per 1000 trees when his coffee was only in its second year. Most of the farmers made small harvests in the third year and several farmers in the household survey harvested between 10 to 20 sacks per 1000 trees when the trees were only three years old. Coffee trees that were five and six years old produced an average of 50 sacks per 1000 trees. The latter yields are fairly similar to those encountered by Margolis (1973: 179) among small-scale coffee farmers in northern Paraná.

Coffee yields for 5 to 6 year old trees ranged from 22 to 82 sacks per 1000 trees. This variation can be explained in part by the fact that coffee trees tend to produce a good crop one year and much less the next, since the tree must go through a period of rest (Margolis 1973: 178).

Farmers indicated that yields varied between farms and even between areas within farms due to soil variation. According to the extension agency, the best soils for coffee in Marechal are Eutrophic Podzolic soils which do not occur frequently in the project area. Even these soils, however, were expected to require intensive fertilization and conservation methods after the first few harvests (Empresa Brasileira de Assistencia Tecnica e Extensão Rural 1982) Several farmers stated that they found the coffee trees to grow faster and yield more on soils they classified as "terra mixta" or soils that are partially sandy. Their own reasoning was that the coffee did better because the water

could drain through, but was also retained by, the soil. They felt that the redder soils were not porous enough, becoming too compacted over time, and the yellower and sandiest soils too much so and poorer in nutrients.

A few farmers with trees that were more than five years old expressed some doubts about future yields and believed that the productivity of their coffee was already in decline. In any event, given the youth and variation in age of the trees, it was perhaps too early to make a conclusive statement on the impact on yields of soil differences within the project. Nevertheless, the decline in yields over time experienced by coffee farmers in Paraná (Margolis 1973) should provide some clues regarding the future of coffee on all soils in Rondonia. There is little room for doubt that the relatively weaker tropical soils of Rondonia and the heavy rainfall will result over time in an even greater need for fertilizers if yields are to be maintained.

Another important factor responsible for the variation in yields between Marechal farmers was the occurrence of broca (Hypotheremus hampel). Unless this natural pest was controlled with pesticides farmers could, and often did, lose a substantial portion of their crop. The pest problem was exacerbated by methods of harvesting and drying that left coffee beans lying on the ground. Here the stray beans provided a good breeding place for the broca. Extensionists recommended harvesting onto a cloth (pano) or a wire mesh (pineira) to avoid dropping and leaving coffee beans on the

ground. About half of the farmers collected their coffee in this way. But often the method of harvesting was to pull the coffee beans off the tree directly onto the ground. The beans were then taken to a flat open space and spread out to dry. This particular drying method was not, according to the extensionists, as effective as was the less frequent, and more costly, use of cement drying patios or large plastic sheets. The predominant practice, they said, was not only less effective in drying the beans but also tended to increase the broca population and decrease yields and quality.

The extension agency recommends intertilling of coffee with rice, corn, or beans. This practice was rarely encountered. Some farmers occasionally planted melons, peanuts, okra, and squash between the coffee but did not maintain crops in these areas throughout the year. The few farmers who did plant rice, corn, or beans between the coffee indicated that they did so for one of two reasons. Either they did not have time to clear virgin land that year or they did not get a good burn on the new area they did clear.

Most of the Marechal farmers were quite familiar with coffee production in their regions of origin. But coffee production in Ariquemes required some modification of the methods they learned in Paraná, São Paulo, or Minas Gerais. Extension agents also had to modify techniques they learned in agronomy schools of southern Brazil. The extensionists, for example, at first encouraged farmers to

plant one tree per cova (the cavity that is dug to plant the tree). Where farmers followed this prescription the results were rows of spindly, fragile trees that offered little resistance to the hard rain and that gave little protection to the ground. The extensionists' belief that planting two trees per cova would inhibit the growth of both trees was soon disproved. Coffee trees planted in pairs proved to be healthier and more productive, and provided much better protection to the ground from the hard, nutrient leaching rains. Areas that were planted one tree per cova were mostly replanted with two. Some farmers found that they had to change their planting methods and dig shallower holes to plant the trees, otherwise an excess of water tended to collect at the bases of the young plants. They noted that, in this sense, planting coffee was somewhat easier in Rondonia. They found after a few years, however, that the demands in labor and pesticides to maintain the coffee trees began to exceed their expectations based on prior experience.

Many of the farmers found that adequate care of 7,000 or 8,000 trees year round demanded more labor than they and their families could provide. Some farmers had, if not in a position to hire wage workers, turned over portions of their coffee to sharecroppers. This contributed to the common agglomeration of several families on the 100 hectare parcels. These sharecropping families also cleared new areas for subsistence crops (and subsequently pasture) contributing to the rate of deforestation.

Several related constraints have induced farmers to re-evaluate the potential of coffee cultivation: low farm prices, technological problems, and the absence of government support. The farmers were generally dissatisfied with the prices they received for coffee, they often felt that the pest and weed problems were too great and too costly to remedy, and they felt that the government was not lending any support to the coffee producers of Rondonia.

Commercialization of the crop was, from the farmers' point of view, the most immediate and discouraging constraint in coffee production. Few farmers could afford the luxury of holding onto the harvested coffee to await the most favorable market prices. Transportation costs were deducted from the value of the sale, which depended on the buyer's classification of the coffee beans. The classification of the coffee was based on a sample of beans inspected for various indicators of quality: color, humidity, fragrance, and percentage of damaged beans. The sample was then hulled and weighed to determine the relative weight of the shell, and the resulting percentage was subtracted from the total weight of the unhulled sacks of coffee. This adjusted weight was then multiplied by the price the buyer chose to pay per kilogram for coffee of the classification he had just determined. The product was the price offered to the farmer.

The interaction between buyer and farmer was usually tense and many farmers felt hostility for the buyers. The buyer had complete control of the transaction, he set the

criteria, judged the quality of the beans, stated the going price, and the farmer could only stand by watching the buyer go through the motions of this complicated process. There was rarely any discussion or barter involved. Occassionally a farmer was observed objecting to the buyer's judgements and price. In these infrequent cases the buyer would normally respond by telling the farmer he could take his coffee elsewhere, or by offering, in the tone of an expert agronomist, some bit of advice on how to improve the quality of the coffee.

There were four coffee buyers in Ariquemes. Among the farmers surveyed who had harvested and sold one or more crops of coffee none had an established relationship with any particular buyer. All responded that they sold their coffee to whomever they heard was paying the most.

Since most of the farmers felt they could not afford to invest in more pesticides, herbicides, fertilizers, drying patios, etc. to improve yields and quality, many were beginning to consider other alternatives. Coffee trees were being abandoned each year to be overtaken by secondary growth and some farmers had already burned their coffee trees to replace the areas with pasture. Approximately 12 percent of the farmers surveyed had begun planting cacau but the cacau agency (CEPLAC) did not include Marechal in its program of subsidized credit and technical assistance. Therefore, farmers who wanted to try this crop could only do so by making personal contacts within the agency who could get them

the hybrid seeds. Others were expressing an interest in shifting to cultivated rubber. The problem with this alternative was that the interest rate on loans for rubber had risen to 75 percent. Even though this represented a negative interest rate it was not negative enough to satisfy most farmers. They based their judgement on experience with coffee credit, which was also subsidized at highly negative interest rates, and the erosive power of unpredictable inflation.

While coffee credit became an important source of cash which allowed many farmers to establish households in the rural area, it did not guarantee that coffee production would become an economically viable alternative. Inflation eroded the real value of the coffee loans very quickly and the farmers soon found that in order to meet the production costs they had to supplement the loan funds with additional cash. If the coffee loan had expired the farmers could get maintenance loans for coffee (custeio). If not, loans for food crops could be taken out and used for the expenses of coffee production. But in both cases the interest rates were relatively high. In 1984, the rate was 125 percent. The farmers found themselves in a "catch 22". In order to improve yields and quality they would require capital. Although they could borrow money at 125 percent interest when inflation was nearly twice that figure, they could not, because of inflation, be sure that the borrowed money would be enough to maintain the coffee trees, much less raise

yields and quality. The absence of better credit was perceived by the farmers as a failure on the part of the government to value the labor of the small-scale producer. They were also becoming aware of the fact that the governments failure to respond to their needs was more complex. The lack of government support involved the relative position of Rondonia's coffee producers in the national context.

The dilemma of coffee production in Rondonia involved not only Rondonia producers but the coffee producers of the Southern states as well. To understand Rondonia's problems with coffee it becomes necessary to see how it relates economically and politically to other regions producing the same commodity. All of coffee production in Brazil forms a single sector regulated by a single agency of the State, the Instituto Brasileiro do Café (IBC).

The IBC, for all practical purposes did not operate in Rondonia; a fact which led several state politicians to raise the issue in the nation's legislature. They objected to federal policy on coffee production on two major grounds: first, they pointed out that minimum prices for coffee were a reflection of production costs in the South of Brazil and fell short of the real costs of coffee production in the North; second, they objected that the IBC, after organizing and supporting the financing of coffee planting in Rondonia, had not established a program to purchase the coffee from the farmers producing it. Neither objection exaggerated the

truth. The IBC had planted a seed and, apparently, abandoned it.

The coffee producers of southern Brazil were a well established economic interest group. And they were not without influence in the formulation of IBC policy. The IBC exists as much to protect their interests as producers as it does to protect the general welfare of this part of the agricultural sector. The coffee producers of Rondonia, on the other hand, were not only newcomers, but newcomers from an area that was only beginning to establish the foundations of political representation in the national arena. To the southern producers the expansion of coffee production in the North meant competition and greater national production which might tend to reduce coffee prices. The absence of the IBC, in light of these economic and political relationships, can be interpreted as the product of selective policy favoring those with greater influence in established bureaucratic and political institutions (cf. Pompermayer 1979). In the end, regardless of Brazil's drive to increase export production, which includes coffee expansion in Rondonia, existing classes were not likely to defer to someone else's notion of the greater good, they were more likely to continue protecting their own territory.

The promotion of coffee cultivation in Rondonia was not so much a question of contradictions in policy, as it was a matter of ill-conceived and inappropriate policy that failed to consider the broader consequences or the external response

to its implementation. In any case, it is not a foregone conclusion that Rondonia will never attain a position of greater political influence. There were, however, enormous obstacles to viable coffee production and the economic disadvantage with which these coffee farmers were burdened could contribute to an eventual shift in commodity production.

The economic problems of the household were, for most farmers, not considered so grave as to warrant selling the farm and moving elsewhere. None of the farmers in my survey felt so hard pressed as to consider that option. The farmers could, if production was not meeting household needs, sell their labor to other farmers. Of the households surveyed, nearly half declared that household members had worked for wages one or more times in the preceding 12 month period. In all but a few cases they indicated that wage labor was only sought periodically when cash income was desperately needed. Usually the need for cash was related to medical expenses, although many worked in order to purchase household goods or farm inputs. Slightly less than 10 percent of the farmers indicated that wage work was sought by one or more members of the household on a regular basis, i.e. at least once a month. The households which were more recent arrivals tended to sell more of their labor than households which had been established for five or more years. For most farmers wage labor was generally considered an "emergency" measure and if it could be avoided by selling pigs, timber, chickens, eggs,

even household cats, it usually was. If the need for cash was not immediate, an alternative to wage labor which some farmers chose was to take on a coffee sharecropping arrangement with a neighboring farm.

In 1983-84, opportunities for work were available within the Marechal project. Few farmers sought work in the neighboring projects of Burareiro or Licitação where most of them had worked prior to moving to their farms. Some farmers who were rather close to the cassiterite mining operations occasionally accepted employment clearing forest for these companies. They were an exception, however, since most of the Marechal project is quite a distance from the mining areas. On the whole, if wages were sought they could be earned on Marechal farms within a distance of 5 to 10 kilometers of the household.

In view of the overall economic and ecological constraints, particularly the problems faced by coffee producers, the long-term viability of these farms is still uncertain. Nevertheless, they were managing to maintain a level of subsistence that, in spite of the hardships of isolation and disease, was perceived as an improvement over the lives they had left behind. Although the prospects for coffee production were poor, the farmers were generally hopeful that their economic standing could still be improved and hopeful that new opportunities would arise. Their optimism can in part be attributed to the rapid economic growth they perceive around them, even if they have not

participated equally in the benefits of that growth. The farmers and entrepreneurs of the Burareiro and Licitação were, in contrast to the Marechal farmers, quite prosperous. There is no doubt that for some the frontier has been a stepping stone to new wealth. The next chapter will examine other farms and farmers in Ariquemes whose presence clearly reflects the bias of government policy towards more capitalized forms of production or towards the holding of land for its increasing exchange value. The relative prosperity of these other farmers and entrepreneurs is an important aspect of life in Ariquemes and cannot be separated from the economic, social, and political conditions of small-farm settlement. The existence of these other, larger farms has important implications for the future of small-farm settlement and for any discussion of the frontier in terms of social change and agrarian reform.

CHAPTER FIVE
THE OTHER ARIQUEMES:
MEDIUM- AND LARGE-SCALE FARMS

The problems of farmers on small homesteads in the more isolated corners of Ariquemes cannot be understood without some reference to the world around them. Their needs and their aspirations must be set against the needs and aspirations of other, and more powerful, elements in the community as a whole.

Ariquemes is a divided and polarized community. The planning of settlement and resource distribution set the stage for diversity and laid the foundations of a stratified community. The result of planned agricultural development in Ariquemes was a reproduction of economic, social, and political inequalities that characterize the whole of Brazilian society. The Marechal project farmers could be found close to the bottom of the local hierarchy. Above them were the farmers of the Burareiro project who were granted over twice the amount of land and access to a more prized commodity than coffee--cacao. And above the Burareiro landowners one might find the owners of even larger tracts of land in the Licitacão project, sold in parcels of 500 and 1,000 hectares, although few of these investors had even come to inspect their new holdings. Included in the scheme are others whose families had long ago laid claim to great areas

tens of thousands of hectares in size, landowners who preceded INCRA's arrival and whose landholdings were then given a legitimacy that they did not hold before.

The Cacau Growers of Burareiro

The Burareiro project, like Marechal, was planned by INCRA for the distribution of land grants. The project encompassed a total area of 304,925 hectares and was to be divided into parcels of 250 hectares each. A total of 1540 parcels were distributed within the project. Only 800 of these properties conformed to the project plan for farms of 250 hectares in size. The latter ranged between 200 and 300 hectares and most of them lay within the area defined by the government's cacau promotion agency as eligible for cacau cultivation. These parcels encompassed an area of approximately 200,000 hectares. Nearly half of the area originally intended for Burareiro contained 710 parcels which ranged in size from 100 to 130 hectares. In this area of 104,925 hectares, called Burareirinho, the blocks of 250 hectares were halved in order to accommodate more migrant families whose numbers were growing daily and crowding the town center. Burareirinho was not eligible for the cacau program. It was located west of the BR-364 highway in an isolated area that was only opened up after 1980. In 1984, Burareirinho was still relatively inaccessible and sparsely populated. The discussion of Burareiro that follows does not apply to the Burareirinho area which is essentially no different than most of the Marechal project area.

The selection of grantees for the Burareiro project differed significantly from colonist selection for Marechal. Agricultural training (not necessarily farming experience), financial status, and education, specifically higher education, weighed most heavily in the selection criteria. As a result, many of the Burareiro grantees were doctors, lawyers, bureaucrats, agronomists, and university professors. Most of the grantees, however, were farm owners from the south of Brazil who sold their land, cattle, houses, farm equipment, automobiles, etc. to raise the capital required to be eligible. The applicant had to have a savings account of approximately \$2,000 U.S. in order to qualify for a land grant. Nearly half of the Burareiro grantees came from the state of Paraná and the remainder came, in descending order, from Mato Grosso, São Paulo, Bahia, Minas Gerais, Espírito, Rio Grande do Sul, Goias, Santa Catarina, and Ceará (Hebette and Azevedo 1982:46). Perhaps the most important difference between the selection criteria for Marechal and Burareiro was that in the latter case family labor was not a consideration. Single persons were just as eligible as persons with large families. The Burareiro project was designed with a different sort of production in mind--production based on capital and hired labor.

The Burareiro "farmers" live primarily in the town center. In 1984, only 30 percent of the Burareiro farmers were residing on their farms but many of these had homes in town where older children could live, go to school, or work

in town occupations. With the financing for cacau the Burareiro landowners hired labor to plant their cacau trees and also built homes in Ariquemes on lots received from the municipality. Unlike the majority of the Marechal farmers, who sold their town lots to move to their farms, the Burareiro farmers managed to keep their town properties and many purchased additional lots. Many found employment as civil servants and/or invested in shops, restaurants, beauty parlors, bars, garages, etc. In contrast to the Marechal farmers, this class was well represented in the political arena and in the bureaucracy. Their economic and political influence in the community and their jobs within the bureaucracy of municipal and state administration eventually gave them an enormous advantage in the competition for development resources.

In Ariquemes, the commodity that holds center stage is not coffee but cacau. It is a more valuable commodity per unit of weight and has enjoyed a steady rise in demand on the world market. Burareiro, which was rapidly becoming a major producer of cacau in Rondonia, did so on the basis of the well orchestrated efforts of the cacau agency. The cacau agency had been in Rondonia for several years before the first parcels of the Burareiro project were distributed in 1975.

The first loans for cacau production were distributed in 1976-77.¹ New loans continued being released each year through 1981. Areas of cacau financed varied between 10 and

40 hectares but the majority of the loans were made for areas of 15 to 20 hectares which contained approximately 16,500 to 22,000 trees. In total, 13,160 hectares of cacau were financed in the Burareiro project. After 1981, funding for local cacau planting was cut back and only seven new loans were released between 1982 and 1984.

The subsidized credit provided cash to the farmers over a four year period. The repayment schedule began after the fifth year and extended over a five year period with at a highly subsidized interest rate of 12 percent. One farmer who borrowed to plant 30 hectares of cacau in 1979 explained that because of inflation and subsidized interest he would only have to repay about one tenth of the real value of the loan.

Eligibility to participate in the cacau program was determined on the basis of soil and topographical surveys conducted by the cacau agency. The most appropriate soils for cacau were Structured Terra Roxa or Ouro Preto type soils which constituted 18 percent of the project area and Xibiu type soils which made up 19 percent of the area. Six percent of the area contained a mixed Ouro Preto/Xibiu soil type that was also judged appropriate for cacau (Neves and Lopes 1979). The best soils were concentrated on the east side of the BR-364 highway which, as noted in the preceding chapter, had much better access to the main road. Cacau financing was only approved for farms with these soils of "medium" to "good" fertility which resulted in the exclusion of about one

eighth of the farms within the 200 to 300 hectare range. Altogether, nearly 700 Burareiro parcels were approved for the program and 576 Burareiro farmers participated.

According to extensionists of the cacau agency, soils meeting the agency's standards did exist in Marechal but the project was judged ineligible due to poor access, i.e. the absence of a bridge over the Jamari river. Agency administrators wanted to be fairly sure that access to the cacau farms would not become an obstacle to adequate program direction. Therefore, soil surveys were never conducted in Marechal by the agency. The agency was also concerned about the size of the local operation and did not want to over extend its capacity to deal with the program and problems that might arise. Furthermore, the funds available for subsidized credit were limited. The agency decided that cacau should only be planted on the better soils to reduce the overall costs of production.

The cacau program was not geared to farmers depending on family labor. Almost 70 percent of the value of each cacau loan was intended to cover labor costs. According to the cacau agency, the three year planting phase requires the labor of one man per 3 hectares of cacau. The planting process involves construction and planting of a nursery where the seeds are planted in small sacks where they must remain until they grow to about a foot in height. Meanwhile, the forest is cleared and burned, and shade trees are planted at various intervals to protect the cacau trees and the soil.

Banana trees are planted every few meters and larger trees--gmelina and inga--are planted at broader intervals. The banana trees shade the cacau while it is young and are later cut and allowed to decay in the field. The other species provide shade when the cacau is reaching maturity and remain permanently between the trees.

The greatest demand for labor comes when the cacau fruit is ready to be harvested. Cacau begins producing a small harvest in the third year between April and June. It does not reach full production until its eighth or ninth year. Several steps are required in the harvesting process. First the cacau must be picked. Then the fruits are broken open and the seeds gathered in one place where they are allowed to ferment for several days. The predominant technique of fermentation in Burareiro involved wrapping the heaps of cacau seeds in sheets of plastic. In a very few cases, farmers had purchased large wooden vats for the same purpose. The fermentation technique can affect the quality of the cacau. The use of vats was considered the better method but it was more costly and did not significantly reduce labor costs for the few landowners who used them.

Labor intensive methods of drying the cacau were used on over 80 percent of the farms. Drying is the final step before the cacau is marketed. The seeds can be dried in various ways. The most common method is to spread them out in the sun on sheets of plastic. They must be covered if it begins to rain and they are covered at night. Concrete

terraces can also be used instead of plastic sheets. About 14 percent of the farmers employed a more expensive method of drying that requires the construction of a drying house (barcasa). The drying house is a covered structure containing a platform that can be rolled out into the sun during the day and rolled back under the roof at night. The cost of a drying house, in 1984, was approximately \$2,000 U.S. The most capital intensive method of drying requires a drying machine (secador) which costs between \$2,000 and \$3,000 U.S. They are much like any clothes dryers. The secador is a closed, heat producing apparatus that rotates the cacau seeds inside. It cuts the drying time by at least 75 percent of the time it would take to dry cacau on the ground or on the raised platforms of a drying house. Less than 5 percent of the Burareiro cacau farms had such drying machines.

Apart from the harvest, the greatest amount of labor was employed to keep the trees properly pruned and to clear the cacau areas of weeds and disease. The tops of the trees must remain open to the sun. Therefore, the limbs at the top should be cut back forming a bowl (copa). This allows more sun to penetrate and increases productivity. Control of witches broom (crinipellis perniciosa), a disease which has become a major problem for many cacau farmers in Amazonia, requires a significant amount of labor throughout the year. Control requires constant observation and regular removal of affected limbs and fruits which are then burned

and buried. Almost all of the cacau farms had experienced some problem with the disease but, according to the extension agents, it was under control. Only a handful of serious cases occurred and these areas were subsequently dropped from the program. Extensionists observed that the quantity of witches broom they encountered at any given time usually fluctuated with the price of cacau, implying that the farmers would take care of the problem as long as they expected an adequate return on the investment in labor.

The money received by the farmers from the bank did not always suffice to maintain the cacau trees after the first or second year in the planting phase. According to the cacau agency personnel, they found that this problem became particularly severe after 1980. Inflation continually eroded the real value of the loans which were not readjusted to compensate for rising costs. A few planters received adjustments for inflation in 1982. But the funds were quite limited and only a few farmers who had contacts within the banking institutions succeeded in getting their loans readjusted. Other farmers made up for the difference between the loan money and the real costs by taking out new loans for new areas of cacau. The average number of cacau loans taken out by the Burareiro farmers was approximately two loans each. Many also applied for short term credit for food crops and used these funds for maintenance of their cacau.

Emilio Alves, director of a local government office and owner of two Burareiro parcels (about 500 hectares) explained

that two years after planting his first 15 hectare area of cacau he applied for another loan. His application was approved and his workers prepared a new 10 hectare area for cacau and a new nursery. Economizing, he was able to use the money from the second loan to help pay labor costs on the first area. The next year he found himself in the same bind and borrowed money, though with greater reluctance, to plant an additional fifteen hectares of cacau. In 1984, he was somewhat worried since payments on the first loan were already due. If the oldest trees did not produce a substantial crop that year he would probably have to sell some property to make the payments and to pay the 10 workers that he normally employed on the farm. Fortunately, he owned several lots in town that could be sold, a car, and he held a well paid civil service job.

Emilio concentrated his farm investments on cacau and was going to invest in a large drying house in the near future if he could raise the cash to have it built. In addition to the cacau, he had planted about twenty hectares of pasture but only had 11 cows. He intended to buy more later but only when the cacau was producing and, hopefully, bringing in a good profit. Cacau was not the only agricultural activity in the Burareiro project but it was usually the cornerstone for any other plans that farmers had for the future.

In addition to cacau, coffee and rubber were also found on Burareiro farms. Coffee was planted on 23 percent of the

Burareiro farms and rubber on 4 percent. Neither was as significant to the Burareiro economy as cacau. In comparison to cacau, Burareiro farmers did not find coffee a desirable commodity for major investment. The potential for profits from cacau production was decidedly better. In three years cacau trees could produce 20,000 kilograms per hectare, according to the cacau agency's projections. Some cacau farms in Ariquemes exceeded this estimate. Coffee, on the other hand, could produce approximately 3,600 kilograms per hectare in its third year. Even after 5 years coffee farmers in Marechal did not harvest more than 5,000 kilograms per hectare. Moreover, the value of cacau on the market was several times higher than the value of coffee. In April of 1984, one kilogram of cacau was worth more than 4 times the value of one kilogram of coffee. (Comissão Estadual de Planejamento Agricola de Rondonia 1984:3-4)

Rubber, on the other hand, was not commonly grown primarily due to the fact that it had not been subsidized to the same extent as cacau. The interest rates on rubber financing had risen to a generally unacceptable 65 percent by 1984 and repayment was indexed to inflation. There was also less financing available for rubber, and such credit was unavailable to Burareiro farmers before 1981. Furthermore, rubber trees do not produce enough latex to permit collection until they are nine or ten years old. Above all, most of the Burareiro farmers, like Emilio Alves, had their hands full

with other investments. Cacau was their "best bet" and they stayed with it.

Food crops were normally cultivated by the families who resided on their farms or by permanent workers and sharecroppers. But food crop production was not a significant source of income for Burareiro landowners. Of all the options open to them, producing rice or other food crops was certainly the least attractive.

Pasture was planted on 87 percent of the Burareiro farms and 36 percent of these farms had small herds of cattle. Cattle was being purchased for breeding primarily from sources in Mato Grosso state. To a lesser extent cattle was also being imported from Bolivia via Porto Velho.

Yet cattle production was not a widespread or primary economic activity among the Burareiro farmers. The major cattle producers in Ariquemes were found outside of the INCRA projects and will be discussed later. Burareiro landowners tended to prefer the investment of savings in real estate over investments in cattle. Both could function as a hedge against inflation, but the former was, at least in 1983-84, offering a much greater return.

During the first several years of settlement the cacau producers of Burareiro depended on the labor of Marechal farmers who, as described in the preceding chapter, were essentially prevented from moving to their own farms in large numbers. Although a small percentage of Marechal farmers acquired the means to do so with coffee credit in 1977--about

800 farmers--there were considerably more who did not. The latter group continued to provide labor for the cacau farmers of Burareiro. However, after 1979, conditions for settlement in Marechal improved, additional small farms were distributed and the amount of labor furnished by the Marechal grantees declined. Furthermore, some farms within the Marechal project began to provide temporary labor opportunities for Marechal farmers who found it necessary to seek wage labor off the farm. The "gap" in the labor supply for Burareiro was then filled by landless migrants who continued to arrive and settle in Ariquemes.

The number of Burareiro landowners who contracted sharecroppers (meieiros) and permanent employees paid on a monthly basis (mensalistas) was about equal to the number who only hired day laborers (diaristas) and temporary workers on fixed contracts for specific tasks (empreiteiros). However, cacau growers frequently cited several problems related to the employment of permanent labor residing on the farm. First, they felt it was increasingly difficult to find mensalistas who would stay on the farm for more than a few months at a time. Farmers whose cacau was not yet bearing fruit said that mensalistas would often leave for other farms with mature cacau where they could make more money as meieiros. Others blamed the turnover of workers on the availability of land in other parts of Rondonia, or in other states such as Acre, Amazonas, and Roraima. Some farmers, whose cacau was already beginning to produce a

substantial crop, did not seem to have trouble finding and keeping meieiros. The meiero could earn a rather good income if the cacau crop did well, more, in fact, than the average coffee farmer in Marechal. Others felt it was less profitable to split the crop with a meiero than it was to recruit diaristas and empreiteiros when necessary. The form of labor employed--meieiros, mensalistas, empreiteiros, or diaristas--also depended on the time that the landowner chose to spend managing the farm. Recruiting and maintaining a crew of diaristas or empreiteiros required more of the landowner's (or his manager's) time than delegating the responsibilities of running the farm to a reliable mensalista or meiero.

The costs of keeping mensalistas or meieiros on the farm were usually higher than the costs of temporary labor. One of the more important expenses of maintaining permanent workers, especially permanent workers with families, was the cost of health care, particularly the cost of treating malaria. Also, malaria was seen as a drain on worker productivity. The preference of many Burareiro farmers for temporary labor was a deliberate and rational economic choice.

Marcio Teixeira, a Burareiro landowner who was usually busy running his own discotheque in town, had ten families living and working on his cacau and rubber farm. He was not sure how much longer he could afford to keep them there since only the week before he had spent over \$300 U.S. on a malaria

treatment for just one of his workers. The worker would eventually have to pay him back but Marcio was worried that if such high expenses came too often he would not have the cash flow to cover them. The more he considered it, paying such bills and also supporting the unproductive, young children of his workers did not seem to make much sense. If he hired temporary workers exclusively he could be sure that the workers would be able to work while they were being paid. If they fell ill he could just let them go and get new workers in town. He would not have to support any families and most of all he would not have to worry about hospital and pharmacy bills.

In 1984, Burareiro farmers perceived labor to be scarce and costly. Their demand for hired labor increased as their cacau trees matured. As the trees grew older, the threat of witches broom increased, requiring greater maintenance. More labor was needed to harvest, ferment, and dry the cacau.

The Burareiro farmers' views on the labor supply "problem" were keenly expressed in mid-1983 when INCRA recruited about 300 landless, Ariquemes families for a settlement project in the state of Amazonas. The reaction from cacau growers in general was adamant. How, they demanded of the state governor himself, could he permit INCRA to engage in a program that so clearly violated the interests of their class, and consequently of Rondonia's economic progress as a whole? The outcry did not bring back any

families from Amazonas but it certainly revealed the cacau growers sentiments on the issue of labor in Ariquemes.²

The crisis they perceived was not real in the sense that there were no laborers to be found--there were more than enough to meet the local demand and their numbers grew daily. The real problem was that their labor demands were growing, their bank loan money was gone or it purchased less than it did before, and the price of labor was higher than they would have liked to pay. What they clearly wanted was a faster growing labor pool to induce a downward trend in wages. Removing the "surplus" labor to colonization projects in other states was counterproductive from their point of view.

In addition to the perceived scarcity of labor, the Burareiro landowners felt that they faced a serious problem as cacau producers in a broader, national context. Not only were their costs of production high, but their income from cacau was relatively lower than they felt it should be. The cacau producers of Rondonia were afflicted with a problem quite similar to a problem facing the region's coffee producers. They were in competition with more established, and more politically influential, cacau producing regions in Brazil.

The northeastern state of Bahia dominates production and export of Brazilian cacau just as the Center-South still dominates production of coffee. The rate of growth of cacau production in the Amazon, particularly in Rondonia, has been rapid and Bahian plantation owners have been concerned for

two reasons. First, they fear the spread of witches broom to the Northeast. Second, they are concerned about their share of the market and the overall effect on cacau prices as Amazonian production increases.

In 1963, the federal government formed the Council of Cacau Producers (CCPC), an organization which was intended to represent all of Brazil's cacau producers. The purpose of forming the organization was to provide a means for the cacau producers to defend their economic interests and help promote the expansion of cacau production. Before the cacau program was expanded to include Amazonia in 1971, the Council of Cacau Producers was composed of representatives from over 90 rural syndicates in Bahia and Espirito Santo. In 1984, Amazonia was only marginally represented and held three seats in the organization. Mato Grosso, Amazonas, and Rondonia were each represented through three rural syndicates (Alvares-Afonso 1983). The cacau producers of Rondonia began to raise objections to their "under representation" in this body. There were several issues which they hoped to address through the Council but up to 1984 they had experienced no success within the Council. In 1984, an association of Amazon cacau producers was being contemplated as a solution. The major issue of concern to Rondonia's cacau farmers was product classification which determined the relative price they received for their cacau.

All of Amazonia's cacau was arbitrarily classified below the highest rating of "export quality" which significantly

lowered the market price of Rondonia's cacau. The cacau agency set the standards of the system and only they could make an official classification of produce. The quality of the product depends on the fermentation and drying process, which for the best results require capital intensive technologies that were not yet widespread among Rondonia's cacau growers. Cacau production in Ariquemes was improving in this respect but most of the state's cacau came from smaller, less capital intensive farms in other municipalities. The cacau agency justified the exclusion of Rondonia cacau from export quality on the basis of the predominant level of technology in use. The cacau farmers of Ariquemes and the politicians who supported them felt that the exclusion of Rondonia was essentially the result of pressure from Bahian producers on the national cacau agency.

In April of 1984, the Bahian cacau prices were approximately 32 percent higher than cacau prices in Rondonia (Comissão Estadual de Planejamento Agricola de Rondonia 1984:3) Cacau from Rondonia, however, often found its way to foreign markets as export quality produce. The cacau grown in Burareiro, for example, was reportedly reclassified at points outside of the state by middlemen who mix it in with Bahian cacau for export. This enraged cacau growers in Rondonia, who were not themselves getting export quality prices.

The cacau agency in Ariquemes had also felt the impact of inter-regional competition. The agencies resources had

been cut back since 1981-82 and its operations were constantly impaired by delays in the release of funds. Administrators of the local agency also saw this as the result of pressure exerted on the agency's central administration in Brasilia by influential plantation owners in Bahia.

In spite of the difficulties experienced by Burareiro farmers in terms of labor and in spite of the lower prices they blamed on Bahian pressure groups, they had done quite well in consolidating their position as the upper class of Ariquemes. Several factors contributed to the relative economic success of the Burareiro farmers: the support of the cacau program, the availability of civil service employment and business opportunities in a fast growing commercial sector, and a dominating influence in the political and bureaucratic institutions of the community.

What most contributed to the widening economic gap between the Marechal project farmers and the farmer/town entrepreneurs of the Burareiro project was the large quantity of starting capital provided to the latter class of farmers by the cacau program. It is true that the Burareiro farmers arrived, on the whole, with more capital resources and that they were favored in terms of land granted to them. However, the injection of capital through the cacau program and the diversified application of these resources to agricultural and non-agricultural investments was a major boost to the local economy and to those who were able to take part in the

economic growth of Ariquemes as a town and as a farming economy. Without Burareiro and the cacau program, it is doubtful that the town of Ariquemes would have achieved the same level of growth and prosperity that it had in 1984.

In addition to the catalyst provided by the cacau program, and in addition to capital resources brought to Ariquemes by Burareiro grantees, another major source of capital was the apparatus of the State itself. There was a large overlap between civil servants and the Burareiro landowning families. The existence of employment opportunities in the bureaucracy was crucial to the success of many cacau producers and to the maintenance of an urban lifestyle among this group. Given the high rate of inflation, an additional source of income was frequently necessary to support the household and accumulate savings. A number of my informants stated that they had come to Ariquemes to farm cacau but entered civil service jobs to support the urban residence of their family and to accumulate investment capital for the farm.

Certainly the most successful Burareiro farmers were those who invested capital in the commercial and service sector of the town. Many of them made their fortunes and became members of the local "upper class" even before their cacau farms had produced a single fruit. The most profitable business was retail commerce of pharmaceuticals, food staples, and manufactured household goods. Investment in mechanical repairs and auto parts was also a very successful

endeavor. Butchershops, restaurants, bars, bakeries, and ice-cream parlors were also lucrative business concerns. Real estate also provided a major source of wealth to some Burareiro landowners who constructed and rented out housing to civil servants, engineers, and other "white collar" workers.

The Burareiro farmers as bureaucrats and entrepreneurs of the growing town were also able to consolidate their political strength as a class. Of eleven members on the city council only one was a Marechal farmer--the remainder were Burareiro landowners. The mayor and most of his administrative staff were also owners of farms in the Burareiro project. The Burareiro landowners were also well represented among the personnel of INCRA and the cacau agency. In short, the political/bureaucratic leadership of Ariquemes and the Burareiro landowning class were virtually synonymous.

Llicitação and Other Large Farms

In addition to the land grant areas of Marechal and Burareiro, INCRA reserved an area of approximately 195,000 hectares which was divided into large tracts and sold to individuals and firms. This large area called Llicitação lies on the east side of Burareiro and is divided into two sub-areas, Theobroma and Seringal Preto. Theobroma contains 177 tracts, each approximately 500 hectares in size. Seringal Novo is comprised of 106 tracts of 1,000 hectares in size. The tracts in both sub-areas were sold in similar

fashion: bids were accepted from interested parties and the land was generally sold to the highest bidders. The purchasing process also required submission of a proposal detailing how the bidder intended to exploit the land. Proof of financial assets to carry out the proposed project was also required. Furthermore, the bidder had to include a resume demonstrating their abilities in business management. There were two restrictions. First, the bidder could not purchase more than one tract and second, the bidder could not own more than 3,000 hectares of land in all of Brazil. In many instances the restrictions were circumvented by placing bids under "borrowed" names of relatives or friends. Several firms, representing perhaps 3 or 4 families, purchased as many as 28 different tracts in Seringal Preto. Similar concentrations of land were acquired by groups in the Theobroma area. All of the tracts in both sub-areas were sold between 1977 and 1979.

More than 80 percent of Theobroma and Seringal Novo landowners do not live in Ariquemes. Approximately 10 percent of these absentee owners live elsewhere in Rondonia and the remainder live in Brazil's major urban centers--São Paulo, Rio de Janeiro, and Brasilia. There were several professional plantation managers (administradores) who lived in Ariquemes or Porto Velho and managed the absentee owners' farms. One manager was responsible for almost a dozen different farms.

By 1984, some form of agricultural enterprise was being undertaken on at least half of the Theobroma properties. Most of Theobroma was eligible for participation in the cacau financing program and, according to extensionists of the cacau agency, there were 107 tracts with cacau planted in various quantities. These 107 tracts represented the holdings of 49 individuals or firms.

The quantities of cacau planted by entrepreneurs in Theobroma ranged from 30 hectares to 600 hectares. In total, there were 5,905 hectares of cacau planted in Theobroma between 1978 (when cacau was first planted in Theobroma) and 1984. Total areas of cacau greater than 100 hectares were planted on 40 percent of the farms, areas between 50 and 100 hectares were planted on 26 percent of the farms, and areas of less than 50 hectares were planted on 33 percent of the farms. The average area of cacau planted on Theobroma farms was 120 hectares.

Nearly 20 percent of the Theobroma farms contained areas of hybrid rubber trees planted through the government rubber promotion program (PROBOR). To my knowledge, there were at least 800 hectares of rubber distributed among 18 percent of the Theobroma farms. Areas of rubber ranged from 50 to 300 hectares. Financing of rubber cultivation in Theobroma and Seringal Preto did not begin until 1981. Hence, there was no actual production of latex in 1984 and production was only to be expected in 1989 or 1990.

A very small percentage--less than 5 percent--of the Theobroma farms were engaged in cattle ranching. One of the largest cattle ranches in Ariquemes is located in Theobroma. It is owned by a group of absentee investors and has a total of 2,150 head of cattle. There were three other small cattle ranches in this area with 150, 250, and 300 head of cattle each.

Pastures, however, were being planted on approximately 40 percent of the Theobroma properties. There were no federal incentives granted for cattle raising to large enterprises in Ariquemes. This would seem to indicate that those who had planted pasture did not do so simply to take advantage of federal subsidies and tax breaks as was often the case in eastern Amazonia (cf. Hecht 1984). It is perhaps more likely, therefore, that the intentions of these Theobroma landowners were to eventually raise cattle. Nevertheless, in 1984 the focus of productive efforts in the Theobroma area was primarily cacau, and to a lesser extent, rubber.

Cultivation in the Seringal Preto area was essentially limited to rubber. Between Seringal Preto, Theobroma and Burareiro there were over 8,000 hectares of rubber in cultivation. At most, 5,445 hectares of this total area was planted in Seringal Preto.³ There was no cacau planted on these larger properties. According to extensionists of the cacau agency, several of the Seringal Preto landowners had approached--and attempted to bribe--individuals in the

agency in order to get approval for cacau financing. None were successful. The soils of the Seringal Preto area were not within the range of soil types that the cacau agency had approved for inclusion in the program.

According to INCRA sources, the number of properties in the Seringal Preto area that were not being exploited was extremely high. Probably no less than two-thirds of these 106 properties were simply being held for speculative purposes. Most of the area was not accessible by road. There was one rather good road (Highway RO-1) which crossed the southern part of this area and I was able to visit a few of the plantations that were established along this route.

All of the properties visited were cultivating several hundred hectares of rubber each. One of the landowners lived in Ariquemes and owned two adjacent tracts or a total of 2,000 hectares. This landowner was also experimenting with the cultivation of guarana, a plant which is used for producing a popular Brazilian soft drink, and raising pigs on a large scale. His rubber trees were suffering from a blight called Mal das Folhas (Boreiodploidia) which reproduces well under local climatic conditions and is provided an excellent environment to proliferate in by the concentration of cultivated rubber trees. According to extensionists, hybrid trees that are more resistant to the blight have been developed. Apparently, the hybrid that was widely distributed in Ariquemes was not such a variety. One rumor had it that the hybrid had already been tested and

"condemned" in another region of Rondonia (Guajará Mirim). The stocks were not destroyed and somehow ended up in Ariquemes when there was a shortage of hybrid seed. The consequences of the blight were only beginning to be felt by the rubber growers and the full impact of the problem was as yet unknown by the time I left the field in June of 1984.

Much of the land in the Seringal Preto area may have been purchased for motives other than agribusiness development or land speculation. It was highly probable that there were rich deposits of cassiterite on many of the properties along the northern edge of Seringal Preto and on some of the Theobroma properties as well. In fact, this area was very close to the site where cassiterite was first discovered in Ariquemes in 1952 (Hebette and Azevedo 1982:15). There was already an established cassiterite mining operation adjacent to the Seringal Preto area before these lands were sold by INCRA.

The agricultural enterprises on these properties of Seringal Preto and Theobroma constituted a major part of the local economy. The economic activity in these areas generated a demand for labor impacting on the community as a whole. Seringal Preto and Theobroma provided a source of wage income to poorer farmers and landless migrants and therefore, they were also in competition with the Burareiro cacau growers for labor that was available at any given time. These areas were also an important part of the local economy in the sense that they represented a relatively large part of

the land available for agricultural development. They are clearly most relevant in terms of the overall distribution of land and credit, a subject will be examined in the next chapter.

The large private landholdings which were not a part of INCRA's land grant or land sale projects also encompassed a significant portion of the land in Ariquemes. Hebette and Azevedo (1982:50) discovered that 18 proprietors owned landholdings in excess of 1,000 hectares in size in the municipality of Ariquemes outside of the INCRA areas. In total, these properties comprised an area of 486,754 hectares.. Approximately 400,000 hectares of this area belonged to six different seringalista families of Ariquemes' earlier days as an extractive frontier. Over 80,000 hectares of this area was under the jurisdiction of mining companies engaged in the mechanized extraction of cassiterite. About 50,000 hectares had also belonged to seringalista families but was sold to several agribusiness firms in the 1960s and 1970s.

There were two major agribusiness concerns outside of Seringal Novo and Theobroma which also contributed significantly to the local demand for wage labor: Agropecuaria Nova Vida, which was owned by a consortium of absentees; and Frey Florestal, S.A., which was owned by a man residing in Ariquemes, the son of a wealthy landowning family in a southern state.

The Nova Vida property, 18,000 hectares in size, was primarily engaged in cattle ranching. It had approximately 2,400 hectares of improved pastures and over 2,000 head of cattle. The Agropecuaria Nova Vida also contained over 50 hectares of cacao and was going to plant rubber. While the cattle ranching operation did not provide many jobs, the cacao did require temporary laborers at certain times of the year.⁴

Frey Florestal, S.A. was the oldest agribusiness company in Ariquemes. It was established several years before INCRA arrived in the area to distribute land to colonists. This enterprise generated greater demand for a constant and substantial labor force than the Agropecuaria Nova Vida. Frey Florestal, S.A., over 7,000 hectares in size, had 320 hectares of cacao in production, over 100 hectares of producing papaya trees, and 100 hectares of coffee. Cattle ranching was not a major part of its diverse activities. Forty families lived on the fazenda but a constant supply of day laborers was also necessary. Each morning a truck would be sent into town to pick up wage laborers. Hired labor was primarily, but not exclusively, male. Women and even young children seven years of age were hired to harvest cacao and papaya. Frey Florestal, S.A. was the major source of temporary employment for many colonists when they first arrived in Ariquemes.

In addition to these fazendas outside of INCRA project areas there were three large cattle ranches between 1,000 and

2,000 hectares in size. They did not generate a substantial demand for hired workers as did the others described above since they were exclusively devoted to raising cattle. One had a herd of 1,500 cattle, and the others had herds of 2,100 and 2,300 head.⁵

In terms of day to day social interaction, the owners of these private, non-INCRA landholdings were often direct participants in the community life of Ariquemes. Hugo Frey, his adult sons and the major cattle ranchers were especially active in matters related directly to their agricultural interests as well as in matters related to the development of the town center. They belonged to churches, attended meetings of political parties, contributed heavily to political campaigns, participated in farmers and ranchers associations, attended and held social functions with members of local and state government and bureaucracy. They were the minute "upper crust" of Ariquemes society. On the whole, they were highly respected for their economic successes and were frequently consulted for their advice in business matters.

In contrast, the great majority of Seringal Preto and Theobroma landowners were not themselves as visible a part of Ariquemes society. A small part--a dozen at most--of these landowners did live in the community and participated in similar ways. A few of the fazenda administrators were well known in the community and had their own landholdings in Ariquemes. Some of them were also active participants in

community life as members of social clubs, professional associations, and political parties.

While the social status and material wealth of Ariquemes major landowners (in Seringal Preto, Theobroma, or elsewhere) placed them above the average Burareiro farmers, they did not maintain their own separate clubs or organizations but participated in the same social and political circles as the Burareiro farmers, major businessmen, local politicians, and local bureaucrats. Like many of the Burareiro farmers these wealthier individuals also invested in local businesses. One, for example, had a legal office, another had a cacau purchasing business, and one owned nearly half of the butchershops in town. Another one of these major landholders owned a hospital and one owned several retail stores. All of them invested in real estate in the town center.

The larger enterprises of Ariquemes made a significant contribution to the rapid growth of Ariquemes. The cash resources, from credit or from savings, associated with the development of these larger farms was as much of a catalyst to economic growth as were the savings and cacau credit of Burareiro farmers. Both segments of Ariquemes agricultural economy generated capital, jobs, and increased consumption to support business in the town. Both will also continue to support further expansion of the landless contingent settling in the town center in search of work opportunities and, eventually, land.

An important question arises from the particular circumstances of the development of capitalist forms and non-capitalist forms of production in Ariquemes and the diversified model of agricultural development set in place by INCRA and supported by various other agencies of the State. What has been and what is likely to be the impact of capitalist production in Burareiro, Seringal Preto, Theobroma, and elsewhere, on the small family farms of Marechal Dutra? Part of the answer to this question involves labor demand and labor supply in Ariquemes. Another part, related but quite different, lies in the realm of politics, bureaucracy, and the interaction of different classes on this frontier. The latter will be considered in the next chapter.

Labor Absorption

The first major impact of the Burareiro and Theobroma projects on the neighboring project of Marechal was their function as a source of cash earnings for Marechal farmers at a time when, for the latter, road access was poor and starting capital was scarce. Cash resources, particularly credit to plant cacau, that were distributed among the landowners of Burareiro and Theobroma were passed on in the form of wages to the grantees of Marechal. The Frey Florestal and Nova Vida fazendas also provided opportunities for Marechal grantees seeking wage income. Seringal Preto did not contribute to a similar degree since cacau was not financed in this area and since the planting of rubber in this area only began after 1980.⁶ Moreover, by 1980, a

large part of the Marechal farmers were on their own farms and were themselves offering wage labor and sharecropping opportunities to other Marechal farmers in need of employment.

In 1984, Burareiro and the larger farms, including those of Seringal Preto, continued to provide a source of employment to some Marechal grantees who were still unable to move to their farms. Nearly 30 percent of the Marechal farms still were not accessed by viable roads, there was no more credit for coffee, and the limited credit for rubber was not attracting farmers because of rising interest rates and inflation. Although the road situation was improving, the availability of subsidized rural credit was not. Therefore, the specific conditions of improved access and subsidized credit which made it possible for the earlier settlers of Marechal to begin farming were not available to those who were not yet on their farms in 1984. While many of these Marechal grantees were found working on other Marechal farms, or in the informal sector of the town center, others were found working in Burareiro or Theobroma.⁷

By 1984, the demand for labor among the fazendas and Burareiro farms had increased significantly but the relative number of Marechal farmers seeking work on these farms had decreased. Most of the labor force that had supplied the larger farm areas with workers was by then settled in Marechal. Even the settled Marechal farmers who periodically sought wage labor did so almost entirely within the Marechal

project itself. The major part of the labor to work the cacau and rubber farms of capitalist enterprises in Ariquemes had to come from somewhere else and it came from the landless migrants who continued to arrive en masse from other areas within and beyond Rondonia.

Given the high and increasingly rapid rate of immigration and the relatively slower pace of INCRA small-farm settlement, it is possible that in the future the labor demands of capitalist farms will continue to be met by the incoming migrants. On the other hand, it is also possible that Marechal farmers will find it increasingly necessary to seek wage labor in the neighboring areas if they cannot make an adequate livelihood from the cultivation of coffee and subsistence crops. This might occur if internal economic differentiation within Marechal, which was relatively low in 1984, follows the same pattern of differentiation observed on other Brazilian frontiers. This would mean, specifically, progressive de-capitalization of some small farms, and the movement of Marechal farmers into the part-time or full-time rural wage labor force. Approximately 47 percent of the Marechal farmers were, indeed, part-time wage earners on other farms. However, these farmers did not work on larger farmers in Burareiro, Theobroma, Seringal Preto, or elsewhere, but for more successful small-farm owners in Marechal.

It is not possible, based on conditions observed in 1984, to predict which way the Marechal farmers will go if

they become "semi-proletarianized" or "proletarianized". Would the Marechal farmers who were forced to seek wage labor to support the household search for work in the neighboring projects? Or would they seek labor on more capitalized farms in the Marechal project representing the product of internal differentiation? Or would these farmers renew migration and move on to other frontier areas such as Acre, Roraima, or Amazonas?

The function of wage labor is a key element in the analysis of relationships between capitalist and non-capitalist forms of production. Since such analysis is predicated on the wage relationship, it is becomes rather difficult to examine the relationship between Marechal farmers and capitalist agricultural enterprises in Ariquemes in these terms. As noted above, Marechal farmers were not selling their labor to farmers in the neighboring projects to a significant degree. It would only be possible to speculate about future possibilities, at a theoretical level, of how the projects might later become interrelated through the wage relationship.

However, the relationships between the medium and large-scale farms and the small farms of Marechal also involved other concrete, observable, processes that influenced, and will continue to influence the class structure of this agricultural community. The nature of resource distribution, the development of class based organizations, and the impact of particular interest groups

on the operation of State directed development efforts were among the most revealing aspects of class structure and social life in this stratified community.

Notes

¹Actually, cacau was first planted in Ariquemes in 1975. Fifty hectares were approved for experimentation on the plantation of Hugo Frey. Expansion of the program to include Burareiro, however, was based on the apparent success of cacau in the Ouro Preto Colonization Project a few hours south of Ariquemes (cf. Turchi 1979; Lopes 1983; Leite and Furley 1985). Production of cacau in Rondonia did increase substantially after the incorporation of Burareiro into the cacau program. Between 1979 and 1983 cacau production in Rondonia grew from 735 to 15,000 tons. Ariquemes' production increased over the same period from 1.5 to 4,500 tons or to nearly one third of the state's total cacau production.

²The incident was quite exaggerated. Several politicians became involved in a heated debate with local INCRA personnel and with other politicians in Amazonas. For various reasons--none of them having to do with the objections of the Burareiro farmers--the Amazonas colonization project fell through and most of the families who had left Ariquemes eventually returned.

³This estimate is based on combined data from various sources. To my knowledge, there were at least 800 hectares of rubber planted in Theobroma (this figure comes from CEPLAC extensionists) and Hebette and Azevedo (1982) indicate that in 1981 there were a total of 1,910 hectares of rubber planted in Burareiro. Since the total number of hectares planted in the Burareiro, Theobroma, Seringal Preto areas in 1984, as indicated to me by the rubber promotion agency (SUDHEVEA), was 8,155 hectares, the difference is at most 5,445 hectares ($8,155 - 800 - 1,910 = 5,445$). The correct figure is necessarily less since I do know that some amount of rubber was planted in the Burareiro project between 1981 and 1984. Unfortunately, I do not know how much.

⁴I was told by one informant that this company had only taken out the rubber financing to apply these funds to cattle. I was not able to verify this information but it is quite likely given a history of poor government support for cattle ranching in Ariquemes. Local ranchers and certain bank personnel believed that businesses in eastern Amazonia used personal networks to successfully monopolize the subsidies available through the Superintendencia de Desenvolvimento da Amazonia (SUDAM) for cattle production. I do know, for a fact, that SUDAM subsidies were not given to

any of the agribusiness concerns in Ariquemes, although some had applied for such subsidies. One large agribusiness in the Theobroma area was applying, in 1984, for SUDAM support but had not yet received notification from the agency as to the status of their application. I was able to find out from SUDAM records that the government support to Rondonia enterprises through SUDAM was limited to a handful of lumber milling operations in towns south of Ariquemes.)

⁵ There were seven smaller ranches in Ariquemes with herds of 150 to 800 head of cattle (2,280 head of cattle in total) but all of these were in the Burareiro or Theobroma project areas. Hence, by 1984, the largest part of cattle ranching in Ariquemes had developed primarily outside of INCRAs project areas.

⁶ To my knowledge, there were no economic activities apart from rubber cultivation underway in Seringal Preto, except for the clearing of land for pasture, that would have demanded a significant amount of wage labor.

⁷ Precise figures are not available since the owners of Marechal parcels in the unoccupied areas were not surveyed in a systematic fashion. My impression was that most of these grantees were either working in Marechal, in areas relatively close to their own parcels so that they could work on them periodically, or they were in the town working as carpenters, electricians, construction workers, etc.

CHAPTER SIX CLASS AND DEVELOPMENT

In Ariquemes, the means to participate in the process of economic growth and the material benefits of agricultural and commercial expansion were unevenly distributed between different social classes. The original differences in economic status between the small farm owners of Marechal and the owners of larger farms became wider over time as the latter began to reap the profits from their diversified investments on the farm and in the town center. Such differences between classes eventually took political form in the organization of, and conflict between, class based groups within the community. However, the relative economic strength of the local upper class contributed to their ability to control political and bureaucratic institutions. They were therefore better able to intervene, as we shall see below, in the operation of development programs geared towards support of the the small farm sector.

Resource Distribution

A comparison of the different project areas in Ariquemes reveals that the distribution of land and credit was basic to the planned differentiation of the community's farmers. But these were not the only resources divided in unequal fashion. Road access to the main highway and soil quality also took

part in drawing the boundaries between poverty and privilege. Taken together, these resources and their distribution became the building blocks of a new order on the frontier which, from the outset, merely reproduced the established order of inequality in rural Brazil.

The overall picture of land distribution in Ariquemes shows quite clearly that the actions of the colonization and agrarian reform agency (INCRA) had little to do with agrarian reform. The planning and execution of land distribution reflected the subordination of the landless classes to medium and large scale capitalist enterprise. The relative status of the landless poor moving to the frontier was not significantly altered. Other segments of Brazilian society were more favored in the process of integrating new lands into the national economy. Accordingly, the extensive area of the Theobroma project, the Seringal Preto project and the other large properties outside of the INCRA projects were reserved for a relatively small number of wealthy investors. Likewise, the Burareiro project was distributed to a class of entrepreneurs who were not, by any means, representative of Brazil's landless, rural poor.

Table 6.1 illustrates the unequal distribution of land in Ariquemes. The most striking feature of land distribution was the large area legitimized by INCRA for landowners who were already present in the area. Over one third of the total area considered here was exempted from INCRA's distribution and sale of land. Moreover, the landowners of

Table 6.1
Land Distribution
in Arikumes

	Average area of landholding	Total area	Number of landowners	Percent land	Percent owners
Marechal	100	495,000	4,667	33	71
Burareirinho	125	105,000	740	7	11
(sub total)	--	(600,000)	(5,407)	--	--
Burareiro	250	200,000	801	14	12
Theobroma	500	89,000	177	6	3
Seringal Preto	1,000	106,000	106	7	2
(sub total)	--	(395,000)	(1,084)	--	--
Total	--	995,000	6,491	--	--
Private Claims over 1,000 ha.	>1,000	487,000	18	33	<1
Grand Total	--	1,482,000	6,509	100	100

Source: Field notes, Hebette and Azevedo (1982)

this particular area came to represent less than 1 percent of the total number of landowners after INCRA's plan was carried out.

These figures can be interpreted in terms of the major forms of production provided for in the various sectors: small-scale subsistence/commodity production based on family labor, on the one hand, and medium-scale to large-scale production of commodities utilizing wage labor, on the other. Forty percent of the land was granted to small-scale producers making up 82 percent of the landowners. Sixty percent of the land was granted and sold to, or legitimized for medium and large-scale producers (and speculators) who made up 18 percent of the landowners. One could hardly consider such a profile of distribution an attempt to induce agrarian reform.

Even the medium sized farms of Burareiro did not represent a sizable chunk of the land (14 percent) compared to the land reserved for the large farms and cattle ranches of Theobroma, Seringal Preto, and the pre-INCRA landowners (46 percent).

If one considers only the INCRA projects (995,000 hectares) and excludes the landowners whose prior claims were legitimized by the colonization agency, the distribution is slightly less skewed. Sixty percent of the land (600,000 hectares) was reserved for small-scale farms and was distributed to 83 percent of the landowners (5,407 individuals). Slightly more than 20 percent of the land

(200,000 hectares) was reserved for the medium sized farms of Burareiro and was distributed to 12 percent of the landowners (801 individuals). Nearly twenty percent of the land (195,000 hectares) was reserved for large-scale farms and was distributed to 4 percent of the landowners (283 individuals). From this perspective, the participation of the smaller farms increases but the distribution of land still demonstrates the relative advantage accruing to medium-scale and large-scale producers or speculators. Again, there would be little basis for considering the distribution of land to small-scale producers in Ariquemes a significant step towards agrarian reform.

The distribution of credit also served to differentiate one class of producers from another. Table 6.2 illustrates credit distribution between the various project areas in terms of hectares financed for coffee, cacau, and rubber.¹ The Marechal farmers received the greater part of the loans for coffee, the Burareiro landowners received the majority of the cacau loans and also a substantial amount of the coffee financing, the Theobroma landowners received the second largest part of the cacau financing, and the Theobroma and Seringal Preto landowners together received the largest share of the loans for rubber.

The figures in Table 6.2, however, do not describe the full impact of credit distribution. Differences in the cash value of loans and differences in the relative market values of different commodities, particularly cacau and coffee,

Table 6.2
Number of Hectares Financed by Crop and Project
(1977-1983)

	Cacau	Rubber	Coffee
Marechal	140 (1%)	2,708 (25%)	20,960 (83%)
Burareiro	13,160 (69%)	1,910 (18%)	4,210 (17%)
Theobroma	5,905 (30%)	--	--
Seringal Preto	0	6,245 (57%)*	0
Total	19,205 (100%)	10,863**	25,170 (100%)

Source: Field notes and Hebette and Azevedo (1982).

* The number of hectares of rubber financed in Theobroma and Seringal Preto is shown here in the aggregate (6,245 hectares) since disaggregate data was not available. Not reflected in this figure are about 2,000 hectares of rubber credit that was absorbed by large private plantations outside of the INCRA projects.

** Only 9,733 hectares were actually planted, the difference of 1,090 hectares or 10 percent of the total, represents credit that was diverted to other investments. This is, actually, a fairly good record in relation to the national record for such credit. According to Hebette and Azevedo, 36 percent of the credit for the PROBOR projects I and II was disbursed but never used for rubber production. (Hebette and Azevedo 1982:32)

provide more telling evidence of economic inequalities resulting from the distribution of credit.

Of particular interest are the differences between coffee and cacau loans in terms of cash received by the farmers. In 1977, coffee loans provided a total of approximately 8,400 cruzeiros per hectare planted. On the other hand, loans for cacau provided 72,000 cruzeiros per hectare planted.² On the average, the coffee farmers received loans for 10 hectares while the cacau farmers received loans for 15 to 20 hectares. Therefore, during the planting phase of production the Marechal coffee farmer received 84,000 cruzeiros over a three year period. Over the same period the average Burareiro cacau farmer received at least 1,080,000 cruzeiros.

The third phase of the rubber promotion program (PROBOR III), which began in 1983-84, provides the best example of the distribution of credit for rubber in Ariquemes. PROBOR III projected the planting of 6,000 hectares of new rubber in Rondonia. Ariquemes was to receive 1,820 hectares of that total. Twenty-two percent of the projected area to be financed was earmarked for Theobroma and Seringal Preto landowners who represent less than 5 percent of the landowners in Ariquemes. Twenty-two percent was to go to Burareiro farmers and the remainder, 56 percent to Marechal. Yet even if Marechal farmers do in the end receive the largest part of the projected area, this does not mean that they will receive the largest part of the funding available.

Marechal farmers were only permitted a maximum of 10 hectares of rubber each. The larger enterprises could plant 250 hectares of rubber or more and would receive financing for roads, dwellings, labor, etc. The Marechal farmers would receive no such funds to improve the physical infrastructure of the farm.

The distribution of access echoes the pattern of unequal relations that characterizes the distribution of land and credit. Roads are far from ideal anywhere in Ariquemes but there were some major differences between the projects in terms of road access. In some instances these differences reflected the influence of particular interest groups with closer ties to the bureaucracy and municipal government. Some Burareiro farmers, for example, could use their contacts within the municipal government to receive priority in the allocation of municipal machinery for road repairs. The best and most consistently maintained sideroads in Ariquemes were those where one could find the farms of local politicians and municipal administrators. The most important differences however, were a direct consequence of the planned layout of the projects with respect to the Jamari river and major secondary roads.

First, the Jamari river, which lacks a bridge, effectively blocked transport from the greater part of the Marechal project to the BR-364 highway. All of the Marechal farmers west of the Jamari had, since settlement began, experienced major difficulties resulting from this obstacle.

During the height of the rainy season the two ferry crossings which substitute for a bridge were often forced to close down for as long as 3 months at a time. By 1984, the ferries had become so dilapidated that they were frequently out of the water for repairs during the dry season as well. This physical isolation often led to major losses of crops, particularly rice, which did not make it to market. Lacking transport, the farmers often could do nothing but watch surpluses go to waste.

There was no such obstacle for the farmers east of the Jamari, i.e. a small part of Marechal, and all of Burareiro, Theobroma, and Seringal Preto.

The best secondary road in all of Ariquemes was the RO-1 highway which gave access to Theobroma and Seringal Preto and to part of Burareiro. This highway was even in better condition than the BR-364 until the latter was eventually paved. The other major road in Ariquemes was the BR-421 which gave access to the southern half of Marechal and to the cassiterite mining operations. It was only maintained on rare occasions by the mining companies which provided machinery to grade the most treacherous parts.

After 1981, the priority for transportation resources had been improvement of several roads leading to service centers within the projects on both sides of the Jamari. These road improvements were part of a larger development effort that will be discussed below. For the Marechal farmers they were a curious anomaly given the lack of a

bridge to link them up with the main highway. The usefulness of these improvements was greater for those farmers east of the Jamari.

The spatial layout of the projects also defined the distribution of soils. The most fertile soils in Ariquemes were allocated to the Burareiro and Theobroma projects. Again, this reflects the emphasis on cacau production by medium-scale and large-scale farms. The advantages for the farmers who received better soils are obvious; better soils could help to lower production costs and raise output. The implications for the Marechal farmers were just the opposite; higher costs and lower output.

Finally, one should consider the differences in resource distribution in terms of rural versus urban development. The Burareiro landowners were town-based entrepreneurs as well as farmers. It would seem appropriate to compare public expenditures in the town to expenditures in the Marechal project area. Development resources allocated to the town center underscored the unequal nature of resource distribution in the community.

It was noted earlier that nearly 30 percent of the Marechal project had no road access. The town however, had several dozen kilometers of paved streets, sidewalks, traffic signs, street lamps, electric and water utilities and a public sewage system. These were, of course, basic necessities in a fast-growing town. The town also had a large gymnasium, a modern bus station, a municipal zoo, and

numerous office buildings. The newest addition to the public real estate in 1984 was an office complex for the city council which was constructed at a cost of 24,000 dollars U.S. Such investments have been pumped into town centers throughout the state providing a deceptive facade to the true level of underdevelopment in Rondonia's rural areas.

The small farm owners of Marechal were not unaware of, nor unaffected by the growing disparity between life in the town and life in the countryside. They themselves equated the town with the Burareiro farmers and the superior opportunities available to the cacau growers. Since the earliest days of settlement they perceived the underlying competition for limited development resources between themselves and the rest of Ariquemes. At times they organized to act upon their desires for a greater share in the benefits of economic growth. Such actions usually resulted in a counter response from a stronger economic and political class within the community, the Burareiro farmers.

Class Action

The colonists of both Marechal and Burareiro were not unfamiliar with cooperative organizations in the regions from which they migrated. They had, in fact, formed definite opinions about such organizations which influenced the degree of participation in cooperatives and associations in Ariquemes. Nearly all farmers maintained some preconceptions of cooperatives. On the whole, most colonists were reluctant to become involved in cooperatives, based on either past

experience or on second hand information. This attitude was not confined to small farm owners, but was shared by the farmers of Burareiro as well. Such attitudes often led to the complete avoidance of cooperative or associative groups. In some cases such preconceptions did not prevent farmers from participating but did lead to a sort of "marginal" or cautious participation. There was a general reluctance to invest time and money in an organization until it "proved itself" to be honest and profitable for the individual.

In Ariquemes, the social distance between Marechal and Burareiro farmers made the establishment of joint cooperatives nearly impossible. The same tension, however, contributed to the growth of segregated, politicized, and opposing associations. Class divisions created by the unequal distribution of resources came to be expressed in the formation of and conflict between two class-based groups. One will be called the Cooperative and the other the Association. The former was dominated by Burareiro and Theobroma farmers but had a few members who were small farm owners. The latter was exclusively composed of small farm owners from the Marechal project. Although the majority of the farmers in Ariquemes did not participate in either of these groups, the actions of these groups tended to reflect the dynamics of class interaction in the community.

The first official cooperative formed in Ariquemes was only established with great difficulty; it grew out of conflict and remained an issue of controversy in 1984. It

began in 1977, with an attempt by a group of Marechal farmers to lobby for cacau credit. Their small organization organized a demonstration of Marechal farmers demanding that the Marechal project be included in the cacau program. They were unsuccessful but their efforts resulted in a strong response from the Burareiro farmers who formed a rival organization to protect the interests of cacau growers in Ariquemes. Their first major concern was limiting cacau credit to the Burareiro project since they were afraid that expansion of the program to Marechal would eliminate their source of wage labor. The organizers of the Burareiro cooperative also sought to provide the membership with opportunities to purchase farm inputs at discount rates and to commercialize production through the cooperative. Longer term objectives included lobbying for class interests at the local and state level, especially for credit to support the cooperative itself.

The Marechal farmers' association continued for a short time in spite of the fact that they did not get credit for cacau. They made other plans to demand more credit for rubber and to deal also with inputs and commercialization.

Neither group was able to establish a viable organization. In neither project had production reached an adequate level to support the operation of such organizations. Eventually, the leaders of both groups agreed to attempt a joint cooperative. The attempt failed rather quickly. Marechal farmers broke away from the new

organization on the grounds that the Burareiro farmers had assumed complete control. A second attempt was made but failed again when the Burareiro farmers accused Marechal members of the same.

Finally, in March of 1979, the Cooperative of Ariquemes was officially established under the experienced leadership of a Burareiro farmer who had been a cooperative official in northern Paraná. The Cooperative achieved a membership of some 900 farmers, slightly more than half of them from Marechal. The nature of the membership, however, did not reflect the relative power of the two groups in the Cooperative. The Burareiro farmers dominated the operation. The size of the membership was actually induced by a rumor that was spread among the Marechal colonists that their chances of getting bank loans for coffee would be better if they joined the Cooperative. Membership was boosted significantly but many who joined had not even begun to open up their own farms.

The Cooperative managed to get a bank loan and financial assistance from INCRA. The latter donated a rice hulling machine and the salary of the cooperative's manager. The elected executive committee of the Cooperative also received salaries which came out of the borrowed funds. An administrative council of 21 members also received compensation for the time they devoted to the organization. Membership dues did not bring in a substantial income since there were in actuality only 95 (out of 900) active members.

Operations improved somewhat in 1980 and 1981 when 400 members sold produce to the Cooperative. The Cooperative then sold the produce to buyers in São Paulo and Belem (cacau and beans), Manaus and Porto Velho (coffee), and Uberlandia (rice).

Participation declined, however, from the first year onward. The Cooperative was not able to offer competitive prices. According to the management this was due to the fact that they, as an official, civil organization were closely audited and had to register all purchases and sales very carefully. Consequently, their costs in taxes were higher than those of the local buyers who could more easily purchase and sell "under the table". The result was as much as an 18 percent difference in prices between the Cooperative and the local middlemen. Furthermore, the cooperative could not purchase coffee unless it was already shelled, since they did not have the appropriate machinery, thereby reducing their potential business and the Cooperatives usefulness to the Marechal members.

Several incidents undermined the credibility of the Cooperative. The first, which occurred during its first year, involved the sale of defective corn seed. The seed did not germinate properly and many farmers took a substantial loss. The second incident involved the commercialization of rice. A large quantity had been purchased from the membership but there was an unexplained delay in the resale of the produce. When the rice was finally sold, in Uberlandia, the

Cooperative sold for a price that was lower than the price being paid in Ariquemes by local buyers. The farmers could only conclude that the Cooperative management was either incompetent, dishonest or both. A third incident--but not the last, there were others still--involved a high official of the Cooperative who took an unauthorized loan from the Cooperative's funds to finance a private venture. He was not able to replace the funds (over 1000 dollars U.S.) and had yet to do so in 1984.

By the end of 1981 The Cooperative was in severe financial trouble. INCRA and the cacau agency were asked to evaluate the cooperative and provide recommendations for appropriate changes. To reduce costs, the number of paid personnel was cut back to three--a president, manager, and secretary. Several government agencies were asked to elaborate a plan to revitalize the Cooperative but the plan never materialized and the Cooperative was shut down for a period of 18 months. However, some local politicians and Burareiro landowners continued to seek support from the state government to reactivate the Cooperative.

In June of 1983, due to the efforts of a federal congressman (also a Burareiro farmer) the Cooperative was granted a loan from the Banco do Brasil on the condition that members contribute the equivalent of 20 percent, or 31,000 dollars U.S., of the 157,000 dollar loan. The Cooperative, with strong backing from municipal leaders, most of whom were Burareiro landowners, began a major campaign to increase

active membership, especially seeking new members from the Marechal project. In order to entice Marechal farmers to join, the Cooperative acquired a coffee shelling machine and a building to put it in. The Cooperative called a number of public meetings in town, open to all interested farmers, and held additional meetings within the Marechal project. The municipal administration provided buses and trucks to bring farmers to these meetings where representatives of various local and state level agencies explained the potential benefits of joining the Cooperative. Still the response from Marechal farmers was minimal. The installation of the coffee processing machinery was not complete by the time I left the field in June of 1984, having been held up for lack of parts. In spite of these efforts the Cooperative did not succeed in attracting more than half a dozen farmers from the Marechal project. Even among the medium and larger farmers there was much skepticism regarding the Cooperative, still only a small minority, 60 to 80 farmers, regularly attended the Cooperative's meetings.

The Banco do Brasil joined in the effort to revitalize the Cooperative by sending out agents to deliver bills for delinquent membership dues to hundreds of farmers in Marechal. Most of the farmers could not understand why they received these bills but the explanation was quite simple--and rather underhanded. On several occasions in the past the bank had contracted the Cooperative to distribute seed for food crops financed through the bank. The farmers

who took out such loans had no choice but to get the seed from the Cooperative, where he was required to sign certain documents. Although many farmers did not realize it at the time, they were signing up as members in the Cooperative. The bills that bank agents were delivering in 1984 were for unpaid dues from farmers who had no idea that they were members of the Cooperative. Unless they paid up the debt, the farmers were informed, they would not be able to get new loans from the bank, or if they were presently receiving a loan, it would be cancelled. In this way, the Cooperative managed to accumulate a part of the capital it required to qualify for a revitalization loan from the Banco do Brasil.

In spite of the Cooperative's efforts to rally the coffee producers of Marechal, cacau production continued to be the central concern of the Cooperative. The attempt to enlist new members from among the small farmers was primarily a political move to defeat a rival group, the Association of Marechal Farmers, that will be discussed later.

The first major issue taken up by the resurrected Cooperative was to find some way of dealing with the commercialization/ classification problems facing the cacau producers of Ariquemes (see Chapter Five). A possible solution to the discrimination against Rondonia's cacau farmers was brought to the Cooperative by outsiders. A federal project to increase exports through the support of cooperatives had recently started a lumber export program with small saw mills elsewhere in Rondonia and decided to

offer similar assistance to the Cooperative's cacau producers. The objectives of the program were to encourage and aid consortiums of farmers to make their own export contracts, thereby cutting out numerous middlemen, increasing returns to the farmers, and hopefully increasing Brazil's exports in the long term. There was not a massive response, but a substantial one given the size of the cooperative--almost 40 cacau growers committed themselves to the project. There were, in any case, enough interested parties to approve the project and begin making concrete plans.

Meanwhile, a group of small farm owners from the Marechal project were attempting to strengthen their own economic position through an organization called the Association of Marechal Farmers. Established in mid-1983, the Association stimulated a strong response from the Burareiro farmers.

The Association was not a major movement in an ideological sense. On the contrary, "class consciousness" among the small farmers in Ariquemes was relatively weak and had revealed itself only sporadically. The Association did not, perhaps could not, have broad based support among the small farm owners for reasons related to their poverty, spatial dispersion, and to their perceptions of cooperative organizations. Nevertheless, even a small group was able to create a response that revealed quite clearly underlying

relations between classes in the community that were shaping the profile of social inequality in Ariquemes.

The Association did not come out of the earlier small farm association described above in the evolution of the Cooperative. It came about as a result of government sponsored community development and was also stimulated by the precedence set by similar associations in other communities of Rondonia. The Catholic and Lutheran churches of Ariquemes were also instrumental in the formal establishment of the Association.

In April of 1983 the first meeting regarding an association, attended by over 200 farmers, focused on the particular problems of small farmers in Ariquemes and what they might do about them. A second meeting was held in July to found the association. A leaflet written by the organizational committee of seven farmers expressed an important sentiment behind the formation of the Association: " You will see (at this meeting) that only the SMALL FARMER will speak and make decisions... any others should not open their mouths unless invited to do so." At the founding meeting the question arose as to whether or not interested Burareiro farmers should be allowed to join. The overwhelming response was negative.

Elections were held to form the first board of directors. The board consisted of a president, vice-president, treasurer, secretary, alternate treasurer and alternate secretary. In addition to the board there was an

elected supervisory council of three members, which was to serve as a check on the proper administration, by the directors, of the Association's business. Membership dues were set at about \$1.00 U.S per month. A constitution was drafted and approved at the next general meeting.

The constitution (Estatuto) set forth the ideals and objectives of the association, established the rules of who could join, when meetings should be held, how officers were to be elected, impeached, and replaced, the limits of the boards decision powers, the rights and obligations of the members, etc. A few excerpts from the introduction to their constitution may best describe the ideology and objectives of the Association:

The creation of this Association grows out of the need we feel that we should take an initiative to better our own situation. We know from experience that our rights will not come to us as a gift; they must be conquered through organized efforts. Often we are affected by decisions that are contrary to our wishes and rights. We must, therefore, do all that is possible to determine our own future and destiny. We are aware that things are not going well in our nation, that there must be improvement. We see that capitalism has free reign and that the middleman exploits both producer and consumer. We believe that the fight against inflation should be taken up by the government and directed against the middleman. As long as that does not occur, we shall have to defend ourselves in our own way. We initiate this Association with humility, knowing the difficulties ahead. We want to see our labor given value and dignity. We do not want our labor and the fruits of our labor to be used by others for the enrichment of others. We do not want privileges, only our rights as human beings. We want order and progress but we do not want to forget truth and justice. We are small farmers and are equal to each other. Our force is in our unity and this Association must be an instrument of unity.

This constitution is written so that all will understand their rights and duties for the success of the Association will depend on our participation.

Within a few weeks of the founding meeting the board was defining priorities and outlining a course of action. The first action they chose to organize was a bulk purchase of basic household goods--salt, cooking oil, wheat, sugar, and soap--and some farm inputs such as insecticide, herbicide, and barbed-wire. The Association contacted a number of distributors in São Paulo, Paraná, and Mato Grosso to find the lowest prices for these commodities. They would also have to find a distributor who would hold a quoted price for several weeks while members placed and paid for their orders. Since they had little operating capital, and wanted to avoid "capitalizing" the Association, the orders would have to be paid for in advance. After checking out more than a dozen distributors without positive results they found a merchant in Ariquemes who would give them even cheaper prices and hold them for fifteen days. This would save the Association the costs of hiring a truck to pick up the merchandise. They were unsuccessful with the out of state distributors because the order they expected to place was not large enough to get a substantial discount. Only 60 farmers participated in the first purchase.

The issue of "capitalization" was an important one for the Association. The consensus among the members was that the Association should not charge higher dues or borrow money

to accumulate operating capital. Not only would that exclude many of the poorest farmers from participation, but it might also lead to suspicion of corruption. The farmers reasoned that if the Association did not have a large operating fund then no one could accuse the board of misusing or stealing it. Building faith in the Association and expanding the membership had to come first. In order to grow the Association had to make it clear to prospective members that it was not at all like the Cooperative which most farmers regarded with suspicion. It was widely known that the Cooperative had failed because of poor administration, corruption, and eventually, debts it could not repay.

Trust in the leadership was an important factor. The membership was made up primarily of farmers who knew the Association's elected officers, lived in the same areas, and considered these men to be honest individuals. Such personal networks were essential in building the Association. The board devoted substantial time to discussions on how to increase the membership and finally decided to choose "representatives" of the association to publicize its potential benefits at the "neighborhood" level, i.e. at the level of personal networks between neighboring farmers in the rural area.

The board members realized that they had to undertake projects immediately, such as purchases, even if at a small scale. They felt that they needed to accumulate a record of positive actions in order to expand the Association. Growth

would have to come slowly and on the basis of successful performance communicated through personal networks.

The major goal of the association was commercialization of the Marechal farmers' major cash crops, coffee and rice. It would, however, require greater capital and greater participation by the membership than the organized purchases. The group after which the Association was modeled was already close to the point of processing and exporting coffee out of state. The Ariquemes Association was still a long ways from doing so. They would first need the coffee shelling machinery and a place to operate it.

The Lutheran church loaned \$1,000.00 U.S. (interest free) to the Association for the purchase of a coffee shelling machine. Some second-hand machinery was found in another town and purchased for about 1,500 dollars. The difference was borrowed (also without interest) from the local Catholic church, a local chapter of Franciscan nuns, and other private sources.

The leaders of the Association approached the mayor of Ariquemes regarding a town lot he had promised to one of the officers of the Association. The mayor then donated a small lot in the "industrial sector" of town. This was something of a contradiction on the part of the mayor, but it throws some light on the complexities of local politics and paternalism. The officer to whom the lot had been promised was twice the "compadre" of the mayor and had supported his election campaign in the rural area. The mayor, however, was

at the same time orchestrating various efforts to undo the Association altogether. One was the Cooperative's membership drive described earlier, and another was the spread of various false accusations concerning the Association leadership.

A general assembly was called to approve the project and to organize construction of a building to house the machinery. Building materials were donated by members and the churches, and work crews were organized in weekly shifts. If some members could not work themselves they could pay the equivalent of a weeks wages to the Association in cash or produce. The project was inaugurated in August of 1984 and would be ready for the following coffee harvest in 1985.

By the end of 1984 the Association had over 120 members; a small number but still it had been more successful in attracting members than The Cooperative. Participation in the Association's activities and in expanding the membership was not, however, at a level satisfactory to the board. Leaflets distributed periodically to the members emphasized the need for greater participation. It had not proven easy to overcome the general feeling among the farmers that the Association was a risky investment. Many did not want to invest a great deal of time until they were satisfied it was going to work. The future of the Association will hinge on the successful performance of the few dozen members who participated in the Association's initial efforts. It will also depend on the Association's ability to confront and

overcome the organized opposition that arose in response to its formation.

The Association was viewed by the municipal government, which was backed by the economic elite of Burareiro farmers and local merchants, as a serious threat. They enlisted the support of a state deputy and a federal deputy, both of whom had considerable holdings in Burareiro, to inform the governor of this growing problem of what they labeled "subversive" activity. At the same time local authorities offered token support to the Association while they began a parallel attempt to win farmers over to the Cooperative and to discredit the Association. Several social workers who were involved became the targets of fabricated accusations made by local politicians. All of the agents involved were forced to resign their civil service posts.

The small farmers' association was stimulated by, and in part subsidized by the POLONOROESTE program. It was one of the few products of the program which may actually be said to deal directly with the major economic problems of small farm settlement in Ariquemes. Ironically, it was not lauded for the partial success it had achieved but was automatically labeled as a subversive movement. This particular contradiction, the consequence of class divisions in the community, underscores the political economic obstacles to social change in rural Brazil. The final section of this chapter will discuss the operation of POLONOROESTE in the

context of the social, economic, and political competition that had evolved between the divided classes of Ariquemes.

Directed Development: POLONOROESTE

The outline of the POLONOROESTE program to support small-farm settlement was first elaborated in 1978-79 by the Territorial Department of Agriculture. Based on a broad survey of small farms in Rondonia, the following conclusions were drawn:

- 1) Health and Roads were to take priority in any development scheme adopted.
- 2) Social bonds that had been destroyed through the disruptive process of migration had to be restored among the farmers.
- 3) Given the particular agro-ecological problems of the region, permanent tree crop production should be encouraged on small- and medium-scale farms; support of small farmers in this way would guarantee a more even distribution of economic benefits in the region.
- 4) Normalization of land claims needed to be intensified (by INCRA), to reduce conflict and increase access to credit.
- 5) Urban based services needed to be established off the main highway (BR-364), away from the municipal seats and within the colonization projects themselves. (Secretaria de Estado da Agricultura de Rondonia 1980)

On the basis of these needs a plan to address them was put together in a document called the Agricultural System for Small Scale Production in Rondonia. This plan was later

absorbed by the POLONOROESTE Sub-Program for Settlement Consolidation. The major objective of the POLONOROESTE program was the paving of the BR-364 highway. However, in negotiations with the World Bank it was determined that parallel investments were necessary to deal with the social and environmental impact of the all-weather road. One of these parallel programs was the Settlement Consolidation Program also called the Program for Integrated Rural Development.

The Program for Integrated Rural Development was administered by the Rondonia Department of Planning (SEPLAN-RO). The goals of the program were to "consolidate" or strengthen existing settlement by restructuring and strengthening rural extension; increasing applied research to improve inputs (seeds and such); reducing production losses through improved road networks warehousing, and processing plants; organizing and training farmers; improving the means of land distribution to colonists; selectively relocating centers providing basic services; limiting agricultural development to the best soils; expanding social services; and strengthening the planning and executing capacity of local agencies.

The Program for Integrated Rural Development centered on the concept of service centers in the rural area. Service centers were constructed off the BR-364 highway in the interiors of various colonization projects in the municipalities of Ariquemes, Ouro Preto, Jaru, Ji Paraná,

Presidente Medici, Cacoal, Espigão do Oeste, and Rolim de Moura. Their support services were to benefit about 30,000 families. Of the 39 service centers planned only half were completed; by the end of 1984 there were only 10 in full or partial operation. Each was intended to service an area, linked to the center by secondary roads, of about 800 farms. The service centers themselves would be linked to the municipal centers by gravel roads. The service centers were to include the following support services:

- 1) One primary and secondary school to complement the "multi-grade" schoolhouses located in the rural area (which did not provide classes beyond the 4th grade primary level). The administrators of these schools would also supervise and coordinate the activities of the dozen or so smaller schools within the service center area.
- 2) One health post staffed by individuals with basic first aid training who could distribute certain medicines, report cases of malaria, give shots, teach hygiene, etc.
- 3) Rural Extension and Social Services would establish bases of operation in the service centers (coordinated at the municipal level) in order to facilitate contact with the farmers.
- 4) The service centers were to have 2,500 ton storage facilities.
- 5) The service center itself would be 40 hectares in size and have about 200 lots for residence, commerce, and recreation. These lots were to be distributed to farmers in

the service center area who would themselves determine the method of distribution, eligibility requirements, etc. In addition to the health post, government storage facility, and school, each service center was to have a water supply system, electricity, an administrative building for the extension and social services, as well as for an elected administrator, and a small boarding house for extension agents in transit.

The physical plant of the service center and the road network in the surrounding area were to provide the basis for interaction between the various agencies and the population. Another critical element in the plan was the "rural development commission", a component that was to be organized jointly by the social services agency and the Rondonia Development Company. These commissions would be composed of 7 elected members from each neighborhood in the service center area. In Ariquemes, for example, one service center known as Alto Paraiso had 21 commissions, each of them representing about 40-50 households. In theory, the commissions were to be utilized as a means of establishing a permanent communication network between the farmers and the agencies. The physical plant, administrative structure, and the communication network were all essential to the successful operation of the service center concept.

A fundamental question in regard to the Program for Integrated Rural Development is whether or not the program has had any significant effect on the economic viability of

small farms. After six to eight years of settlement the situation of the small farmers was precarious and their future uncertain. What did the Program for Intergrated Rural Development introduce to improve their situation? The unfortunate answer was: very little. It improved access to some farms permitting more rural settlement and increasing the exchange value of the land, but that in itself did not contribute to increase the viability of small-scale agricultural production. The paving of the BR-364 reduced the costs of transport to and from external markets but did this mean higher earnings for farmers or higher profits for middlemen?

These were the most critical problems for the small farmer:

- 1) Malaria and health costs.
- 2) Low minimum prices for coffee and food crops aggravated by exploitation by middlemen.
- 3) Lack of capital to adopt technologies that could lead to increased yields, improved quality, and sounder, long-term resource management.
- 4) Lack of adequately subsidized bank credit.
- 5) Poor road conditions and the lack of a bridge over the Jamari river.

How did the program and agencies involved in the program perform in addressing these particular problems of rural settlement? How, and to what extent was the program influenced by interest groups at the local level?

In Ariquemes there was one service center in operation in 1983-84 and three others were under construction. The following discussion is based on observations of the Program for Integrated Development as carried out in the one operating service center, Alto Paraiso.

Rural extension was to be a basic element in the Program for Integrated Rural Development. The rural extension program did not, however, respond to the needs of the small-farm owner.

The extension component of the program was clearly understaffed. For example, in the Alto Paraiso service area there were 1300 farm properties with an average of 2 households per property. There were only 4 extension agents responsible for this area. Hence, each agent was responsible for 325 properties. If one considers that fact that most of the properties had 2 households, each of them engaged in farming, the agents were then actually responsible for 650 farming units each.

The condition of the roads in the surrounding area of the service center often prevented the extension agents from conducting their work during the rainy season. Flooded roads, washed out bridges, and impassable quagmires could keep the agents from reaching the farmers, just as they kept the farmers from reaching the service center.

The extension agents were required to maintain reports on the status of coffee and rubber farms receiving financing from the banks. This activity, according to the agents, took

up the major part of their time. Hebette and Azevedo (1982) were quite correct in their observation that the extension agents were little more than representatives of the Banco do Brasil. This left the agents no time to carry out the stated philosophy of the agency as described by the extension agents themselves. In their own words their responsibility was to evaluate the farmers' performance with all crops and livestock, to judge the farm as an integrated and diversified whole, and to offer relevant advice on how to improve production. The objective of their work was to stimulate appropriate and more productive farm methods. They were the first to realize, and admit, that this was not the real picture at all.

Nevertheless, a few programs were attempted which involved groups of neighboring farmers. They organized neighborhood committees among the farmers who elected neighborhood leaders. The technical term for this individual was lider multiplicador (or multiplication leader), and suggested his role in the extension plan. The leaders served as a sort of broker between the extension agency and the farmers. Basically, the leaders attended conferences in distant towns where they learned new techniques and ideas to take back and share with their neighbors.

At these conferences, and sometimes at neighborhood meetings as well, the farmers were shown films of exemplary fields of mechanized agriculture in the south of Brazil. One official evaluation document reports that footage of

mechanized farming in North America was included in some of these films. They were also taught how to produce bio-gas domestically and how to build modern storage and livestock facilities.

Interviews were conducted with some of these leaders to solicit their views on the program. When asked what they learned that they had successfully passed on to their neighbors the general response was: "ideas--and just ideas". The sorts of recommendations they brought back with them to the community were of a capital intensive nature that was impressive but beyond the farmers' range of realistic alternatives. As a result, the farmers' perceptions of the extension agency suffered more from the agency's actions than it may have had the agency done nothing at all.

Another program initiated by the local department of agriculture in Ariquemes, with the assistance of the extension agency, involved the cultivation of vegetable gardens at rural schoolhouses. The program began rather late in my field stay and I could not investigate the program's impact systematically throughout the project. Some comments however, can be offered on the basis of the single case that was observed, and on survey data. Approximately 80 percent of the households surveyed already cultivated gardens, except during the dry season when few of the preferred cultivars grew successfully. A few younger women who had not been growing small gardens began to do so. The most interesting reactions, however, were strong objections voiced by various

members of the community regarding the use of school time to teach farm methods to the youngsters. In their view it did not qualify as education.

With growing pest problems, rising prices for inputs, and prohibitive interest rates on operating capital, the farmers were primarily interested in how to save their coffee crops. For many it was a question of whether to continue devoting their efforts to coffee production at all. The extension agents advised farmers to borrow operating capital for 8,000 trees and apply the money to the adequate care of as much of the coffee as possible. If they could only take adequate care of 4,000 trees with that amount, then they were advised to take minimal care of the rest, just enough to make it appear that the trees had not been abandoned. Ironically, the extension agents, who were more often representatives of the bank, ended up advising the farmers to deceive the bank in order to save their coffee.

On the whole, it can be said that there was no effective rural extension program in Marechal, at least none that improved the farmers' abilities to cope with prevailing economic and ecological difficulties.

The service center was also to provide storage facilities for the farmers. The first structure built in Alto Paraiso was a 2,500 ton capacity storage facility. The farmers however, did not find it of much use. In fact, less than 5 percent of the households surveyed had ever used the government storage facilities in Ariquemes or in the service

center. Although it was constructed in 1982, the storage facility in the service center had yet to purchase any produce from the farmers as of 1984. It was ostensibly open for the rice harvest in early 1984, but for several reasons most farmers did not take advantage of the facility even when the alternative buyers were paying less than official minimum prices. One farmer expressed the general consensus among them about the facility in the following statement: "If you know how, then it is best to use it...but if you don't you can lose days, sometimes weeks, just getting the sacks. It means several trips to town. Time and confusion at the bank. The buyers in town pay less but with the government warehouse you spend money, and you waste time, and there isn't much of either, just a lot of work to do and a lot of malaria. And if you owe money at the bank you might never see the money for your rice. CIBRAZEM will only take rice that's dry to begin with and that's been a problem for many of my neighbors who tried, it seems dry when you take it... but you get there and they say its not good enough. And this year the sacks are all taken up by the buyers in town. They get them all before we get a chance. And then what? No sacks...that won't do. CIBRAZEM? Its not really for us at all."

The national agency responsible for regulating the commercialization process for the benefit of the producers was, in effect, only subsidizing the middlemen. By increasing the available storage space the government improved the position of the intermediary who could then

purchase and speculate on larger quantities of produce. The farmer remained entirely marginal to this particular "development" effort.

The service center was also equipped with a small health facility and several agencies were involved in the health aspect of the Program for Integrated Rural Development. The Rondonia Development Company supervised construction of neighborhood and service center health posts. The local department of health provided basic training and pharmaceuticals to the various health posts. The malaria control agency maintained its program of DDT application and chloroquine distribution through neighborhood "malaria agency posts".

The rural health agents, who generally received very limited training, faced problems similar to those of the farm extension agents. They could give advice on proper hygiene, nutrition, and other preventive health measures, but they could not provide the farm households with the economic conditions to follow this advice. Most significantly, they could not effect a change in the most pressing health problem in the region...the high incidence of malaria. The malaria agency itself was unable to control the problem. This was perhaps the most critical question of all and research on the malaria problem is one of the regions most immediate needs. The malaria agency did not have sufficient resources to carry out its eradication program, nor to review the effectiveness of the measures it carried out.

The health posts and malaria agency posts did not provide all of the necessary treatment and the government hospitals of Ariquemes were not sufficiently equipped or staffed to handle the high rate of malaria and associated health problems. The farmers turned to the private health sector but only at great cost.

The backbone of the service center concept was the system of "rural development commissions". Theoretically, they were to function as a means of creating and maintaining a flow of information between farmers and the agencies providing services in the area of each service center. They were intended to be the fundamental building blocks of the service center as a unit of administration and social interaction. This part of the program was a limited success. The organization of the commissions helped the farmers to apply pressure at the local level for some basic improvements in transportation, health, and education. The commissions that functioned best were those which sent representatives to the mayor or to the directors of various agencies to demand help in repairing roads and bridges or in building schools and health posts. Some succeeded in pressuring local government to speed up the opening of new roads. The commissions provided a forum for the small farmers to express their problems, to discuss possible solutions and to organize small groups to achieve certain short-term goals. But they could not, in this atomized fashion, effect significant

changes to improve their standing as a class of farmers in Ariquemes.

The commissions provided the basic communication network for the creation of the Association of Marechal Farmers, which was however, independent of the service center administrative structure. There was a strong reaction on the part of various municipal leaders and an attempt to absorb the Association into the service center's bureaucratic structure. The municipal administration, the local department of agriculture, the extension agency, and the Rondonia Development Company, joined together in an effort to replace the local Catholic and Lutheran churches as the "patrons" of the Association. Their proposal to the Association was to offer assistance in the areas of health and commercialization if the Association restricted its operations to 3 or 4 neighborhoods in the service center area. When the new "program"--which these agencies offered to direct but did not specify in great detail--was well established in one area then they could move on to include new neighborhoods.

The farmers perceived the move as an attempt to defuse their efforts to establish an independent organization. Indeed, this was precisely the motivation of those behind the proposed alliance. They made this quite clear by using the service center to call community meetings with local leaders which were little more than membership drives for the Cooperative.

The attempted "take over" failed since the Association farmers rejected the idea immediately. It was soon obvious to the farmers that the agencies did not have a concrete plan or the resources to carry one out. Furthermore, there was a general distrust of bureaucrats and they already had solid ties with the local churches that were backing them. The incident played itself out in a matter of weeks. It left in its wake however, a very clear impression among the farmers that the service center's administrative structure could not only be used in the farmers' interests but against their interests as well.

The service center was also intended to develop as a residential and commercial center. A group of commission leaders of the Alto Paraiso area met to determine who would have priority in the distribution of residential lots in the service center and set the following criteria: 1) farmers residing more than 5 kilometers from the service center; 2) farmers with children requiring the more advanced educational facilities of the service center; and 3) farmers with elderly or handicapped dependents requiring regular use of the health facility in the service center. Distribution of the lots designated for commercial activities (stores, bars, etc.) was to be determined on a case by case basis by the elected administrator of the service center in collaboration with the Rondonia Development Company and the social services agency.

There was a great deal of confusion when the time came for farmers to apply for lots and participate in the random

drawing by which lots were distributed. Rumors that the farmer would have to build a house on the lot according to certain costly specifications kept many farmers from applying. One neighborhood leader informed his group that only he would decide who among them could apply. Nevertheless, the drawing took place and all of the farmers, approximately 200 in total, who applied for a lot received one.

The majority of the farmers in the area did not participate. Most did not take part because they lacked the resources to build and maintain a second household in the service center or because they did not care to do so. But those few who had resources to build and those who had children old enough to benefit from the expanded educational facility did take an interest. Many who applied for and received lots were enticed by the idea of a free urban lot: they might manage to build on it, they might not, but in the latter case they felt they could probably sell it. The service center was for them an opportunity to speculate without any financial risk. In fact, many of the lots were offered for sale the very same day of the drawing.

In Ariquemes, the execution of the Program for Integrated Development frequently reflected the interests and influence of local elites. The elections of administrators to the four service centers, for example, were subject to direct interference by the local political elite, which successfully installed the candidate of their choice in three

of four cases. In the fourth case the man elected was not willing to strike a deal with local government and the result was a freeze by the Rondonia Development Company on financial support to the operations of that service center. The administrator's contract was put on hold and rumors began circulating that the Rondonia Department of Planning was considering the possibility of cutting out the administrator role in this and other service centers. In Alto Paraiso the elected administrator was hand picked and supported by the mayor in collaboration with the local office of the Rondonia Development Company. Together they managed to manipulate the election process assuring their candidate's victory.

What were the motivations behind the move to maintain an influence in the service centers? The clearest motives on the part of local government in Ariquemes were both political and economic. At the political level it was in the best interests of the local government to maintain a visible connection with the happenings of the service center--in particular with the benefits in services and infrastructural support it was supposed to bring to the rural population. In the eyes of the municipal government, the service center administrator could serve as a liaison between themselves and the commission leaders of the service center area. What had been intended in the Program for Integrated Rural Development plan as a structure through which the farmers could voice their needs and ideas was co-opted by local political forces and made into a rather one-sided channel for municipal

propaganda. The administrator of Alto Paraiso, for example, became a spokesman against the small farmers' new Association and assisted in the campaign to win the farmers over to the Burareiro dominated Cooperative.

Furthermore, the administrator could protect the interests of the urban commercial elite. The administrator was in a position to grant service center lots to individuals of his choice and in the Alto Paraiso case the most favorable commercial locations were granted to the major merchants of Ariquemes. A pattern was emerging that suggested what one important function of the service center could become. Through manipulation of the service center leadership the service center could become a new base for the commercial operations and speculative ventures of the town elite. Alto Paraiso was well on its way to becoming a twin to Ariquemes in this sense. It would appear that the service center was merely providing new ground for the expansion of economic interests dominated by the town-based, Burareiro class. The service centers were not only an opportunity for local capital investments in commerce and services but a potential threat to the elites hegemony in this sector. They could not afford to allow "outsiders" to establish a new commercial and service center that would compete with Ariquemes for the business of the Marechal project. It became quite clear that local government had less interest in the stated objectives of the service centers than it did in the political and economic opportunities of these potential "town satellites".

There were a number of general problems that impeded the successful operation of the Program for Integrated Rural Development. The most important was a function of economic inflation. A huge discrepancy grew between expenditures calculated in 1981 for specific aspects of the program and real costs in later years. In 1983, the inflation rate exceeded 210 percent. The cost of one rural schoolhouse, for example, was nearly ten times in 1984 what it had been in 1981, according to the local director of the Rondonia Development Company. The only reason one could find schools in many rural neighborhoods was because the majority of the materials and labor were supplied by the farmers themselves. Often the farmers would organize collective work parties through the neighborhood commissions and make a special request to the mayor of Ariquemes for any assistance he might be able to offer, such as gasoline or the loan of some heavy machinery.

Construction and maintenance of the vital road network within the service center areas had likewise been impeded by rising costs. The Rondonia Development Company managed to build a fairly good road from the BR-364 highway to Alto Paraiso but the remainder of the transportation network, essential to the operation of the service center concept, lagged behind, depending primarily on a more gradual input of resources from the municipal government. In the absence of these roads the service center itself was less accessible to much of the service center area than was the town of

Ariquemes. Consequently, the service center was of little interest to much of the target population.

The most glaring inconsistency with respect to the service centers in Marechal was the total absence of any provision for a bridge across the Jamari river. Even if all of the road network within the project had been complete, the river effectively isolated the area from the BR-364 highway for months at a time.

In theory, the Program for Integrated Rural Development was to be self-regulating; the communication channels set up between the local, state and federal levels were to provide continuous feedback permitting modifications in the program. This simply did not operate as expected, primarily due to lack of inter-agency communication and lack of clarity as to each agency's responsibilities. There was no organized forum allowing agencies the opportunity to compare notes on a regular basis. As a result there was some conflict between agencies over the nature of their participation in the program.

Moreover, the personnel hired through the Program for Integrated Rural Development were scattered throughout the various state agencies and it was often unclear to the agents themselves what their connection to the program was at all. At times they even found that their duties as defined by the program came into direct conflict with the interests of municipal authorities. Such was the case with the social services agents in Ariquemes who helped organize the

Association of Marechal Farmers. The lack of cohesiveness and the lack of an effective coordinating authority reaching to the local level actually facilitated interference by municipal government in the program's operation.

At the state level the Program for Integrated Rural Development had been designed to avoid this sort of interference. The attempt only resulted in antagonizing municipal leaders. First, the program attempted to create a parallel development structure within existing institutions. To maintain autonomy the funds for the Program for Integrated Rural Development were tightly controlled through the Rondonia Department of Planning. These funds did not go directly to local or state agencies. In this way, the state administration had hoped to maintain singlehanded control of the development resources and by extension, of the political leverage these resources provided. Second, the Program for Integrated Development created a cadre of state-employed workers inside municipal institutions who were not under the direct control of municipal leaders. The municipal agencies could not themselves dismiss these workers in the event that they were contradicting the interests of municipal authorities. In order to replace these personnel the local leaders had to take their complaints to the Rondonia Secretary of Planning or to the Governor himself. Local leaders were not at all pleased by this lack of autonomous control.

Consequently, there was a consistent and growing reaction at the local level from the moment elected municipal governments were established in 1982. Local politicians began pitting themselves against the state-level administration, challenging the system through which development resources were being distributed and challenging the structure of the Program for Integrated Rural Development as well. The politics surrounding the Program for Integrated Rural Development became, in the end, a major obstacle to the smooth operation of the Program itself.

In summary, the Program for Integrated Rural Development in Ariquemes clearly did not begin to resolve the major problems faced by the farmers of Marechal. There was no significant impact on health care, no impact on farm income, and consequently no impact on the level of technology employed by the small-farm owners. Their major transportation problems were not resolved and their access to farm credit was not improved. Their potential to organize as a class to seek their own solutions was improved but this was due less to the program than it was to the support of non-government groups.

It is also clear that directed development efforts in Ariquemes were far from independent of the social and political divisions which existed in the community prior to the implementation of the Program for Integrated Rural Development. The foundations of class structure were already well rooted in the unequal distribution of resources.

Efforts by grass roots organizations or by government agencies to improve the standing of the small-farm owners as a class faced a similar obstacle. They had to deal with the inevitable and antagonistic reaction to possible changes in the status quo by the dominant class in the community.

Notes

¹Complete data on credit for food crops, farm machinery, or operating capital (custeio) was not available from all of the banking institutions in Ariquemes. Hence, they have been excluded from this discussion. I do not doubt, however, that the amount of credit for these other crops, etc. was unequally distributed and favored the larger landowners. This, I think, was related not only to differences in access to the loaning institutions and their agents, but to the attitudes of small-farm owners towards borrowing per se, which are generally more negative than the attitudes of their counterparts. The Marechal farmers interviewed rarely took out loans for operating capital, food crops or farm machinery. The small-farm owners wariness was not a cause of lesser borrowing as much as it was a correlate of their precarious economic standing which results from a combination of economic and ecological factors. The Burareiro farmers for the most part limited their borrowing to planting loans although a few had borrowed to build cacau drying houses and to buy mechanical cacau driers. The Theobroma farmers borrowed more frequently for drying houses and other farm equipment in addition to borrowing to plant cacau and rubber.

²Both the cacau farmers and the coffee farmers received free seed in addition to the cash loan.

CHAPTER SEVEN CONCLUSIONS

The future of the small-farm owners in Ariquemes is uncertain. But a number of factors have rather clear implications for the reproduction of the small-farm household as a viable economic unit. These factors are both economic and ecological and are closely intertwined. Other factors related to social structure and development in the national context also affect the small-farm owner and the general outcome of frontier expansion in Rondonia.

Economic and Ecological Factors

Some economic factors which affect the small farm are related to market forces (supply and demand), to government intervention in the marketplace (minimum price policies, government purchase of commodities) and to the private commercialization network (middlemen). The conditions of transport are also an essential part of the market structure. Other economic factors, though they involve markets, are more directly related to production--the costs of physical reproduction of the family labor force, the costs of farm inputs, and the availability and cost of credit.

Market prices for commodities--primarily coffee and rice--produced by small-farm owners in Ariquemes are, of course, affected by supply and demand. Fluctuations in price

may at times benefit the farmer and at times they may not. The household's vulnerability to these market forces is a function of the degree to which it is financially dependent upon a given commodity. Greater dependence on a single commodity for the bulk of a household's income means greater vulnerability, particularly when a crop has been financed by the bank and when the small farm operates with little or no savings. Typically, the small-farm household in the Marechal project did not rely entirely on a single cash crop be it rice, coffee, or any other commodity.

The Marechal farmers were, however, sensitive to fluctuations in price in terms of how much rice they planted or how much cash they invested in maintaining their coffee trees. One farmer, for example, gave this explanation for a decision to plant more rice. There had been an overproduction of rice during the previous cycle and local rice prices fell drastically. He would plant more this year, he argued, since fewer farmers would plant rice and prices would no doubt rise again. On the other hand, another farmer insisted that this logic was flawed. According to this individual, many farmers would have the same idea and there would be too much rice and low prices all over again. Neither farmer was correct in their reasoning since both were basing their decision on a very limited horizon, the local farm economy, when the supply and demand for rice is a problem of national scale. The point to be made here is that,

in spite of the fact that both farmers may have been sensitive to the operation of market forces, neither had any control over such forces and each was simply making a gamble.

In addition to the forces of supply and demand there were two major intervening factors in the market. First, there was the federal government. At the national level, the government set minimum prices for coffee and rice. These prices provided a floor price upon which local middlemen based the prices they paid to the farmers. Agricultural economists and politicians in Rondonia argued heatedly that these prices were calculated on the basis of costs of production in the Center-South of Brazil and did not reflect the true costs of producing these commodities in Rondonia. The logic of their argument seemed sound. Manufactured inputs such as pesticides, herbicides, fungicides, fertilizers, agricultural tools, etc. were relatively more expensive in Rondonia due to transport costs and a general tendency by retailers to overinflate prices. The price of farm labor was also relatively higher than in the Center-South (30 to 50 percent higher) and the costs of transport were higher due to the precarious condition of the region's road network. Therefore, the proponents of this view contended, the farmer's of Rondonia were being "robbed" by the government and placed at a competitive disadvantage to farmers in the Center-South.

The government also intervenes in the marketplace by purchasing commodities through the Production Financing

Commission (CFP) and an affiliated system of government warehouses (CIBRAZEM). They purchase rice but do not purchase coffee. The latter has also been a matter of heated debate (see Chapter Four). When the government purchases rice, however, it is rarely from the producers themselves. Over 95 percent of the households surveyed indicated that they had never sold produce to the government. The farmers gave several reasons. First, the government would not take rice that had a humidity of more than 14 percent. Second, the bureaucratic process was too much trouble. Third, the warehouses rarely had free space and fourth, they could get a better price elsewhere and needed the money right away. The fact of the matter was that the government warehouses were used primarily by local middlemen who would take up most if not all of their limited storage capacity.

Another intervening factor in the market were these middlemen themselves. It was the middlemen who had greatest control over local farm prices. Usually they paid a price that was slightly higher than the minimum price but at times they paid much less. After the 1984 rice harvest, for example, middlemen were paying little more than half the government minimum price for this crop. The farmers' logical alternative would have been to sell to the government at the minimum price but, needless to say, the middlemen had occupied all of the space in the government warehouses with produce they bought from the farmers. Local coffee prices, to my knowledge, had not yet fallen below the government

minimum price in a similar fashion. The farmers complained a great deal, however, that some of the buyers rigged their scales to register less than the real weight of the coffee or that buyers regularly underclassified coffee to get it for a lesser price. Whether or not their suspicions were true, the farmer had few alternatives in Ariquemes and no way of selling their coffee outside of Ariquemes. The dependency of the farmers on a limited number of middlemen--there were only four coffee buyers and six rice buyers in Ariquemes--essentially left them at the mercy of a few powerful merchants. In the farmers' view, with the exception of malaria, farm prices were the greatest obstacle to their economic progress.

The poor road access to the small farms is also a major economic constraint. In the absence of good roads or necessary bridges, commercialization of produce becomes more costly. These higher costs in fuel and maintenance were passed on to the farmer; they were not absorbed by middlemen and independent truckers. At times the state of transportation made the sale of surpluses impossible. Crops were frequently lost due to the inability of farmers to get their produce to market.

An associated economic problem is the cost of bus transportation from the farm area to the town center. Bus transportation in the municipality was monopolized by one company which charged highly exploitative fares. The cost of a bus ride, for example, from the Alto Paraiso service

center to the town center of Ariquemes--a distance of approximately 50 kilometers--was nearly twice the cost of a trip from Ariquemes to Porto Velho which is almost 200 kilometers away. In more concrete terms, the cost of a trip to town could be as high as one sack of rice.

Also, road and other transport problems have tended to undermine the efforts of government agencies involved in programs to aid the farmers. Often during the rainy season extension agents were simply unable to reach the farms. Many neighborhoods did not have convenient access to the service center due to various obstacles such as flooded roads in low lying areas, unfinished stretches of road, and fallen bridges.

A second set of economic factors also impinge on the small-farm household and must be considered in an evaluation of the potential of the colonization program. These interrelated factors have to do with family labor, farm inputs, and rural credit and are central to the production process.

The physical reproduction of the family labor force is, of course, the objective of all household economic activities. One cost of physical reproduction which is especially high and particularly threatening to the small-farm households is malaria. The disease in itself is considered a cost here because of the drain it places on the family labor force and hence on the household's ability to sustain itself. Health costs are a related but separate

matter. It was not uncommon to find that, over a period of one year, many heads of households and older sons, who usually did the greater part of clearing, burning, and cultivating, were unable to work from several weeks to as much as two months due to malaria. Heads of households were frequently unable to work even when they themselves were not the victims of malaria. If a spouse or child fell extremely ill, the head of the household would normally accompany them to the town center for treatment. This was particularly true when the household lacked cash to pay for treatment. The household head would go along not only to take care of the patient but also to arrange for credit. They not only lost work time but did so at a time when they could least afford it.

High costs of health care must also be considered. Household expenses for pharmaceuticals, hospital bills, etc. were the single largest cash expense for more than 60 percent of the households surveyed. In many cases, more money was spent during the year on malaria treatments than on all other cash expenses combined. One classic saying among the small-farm households was "if it were not for malaria this would be a great place" or "what so-and-so does best is catch malaria!"

Another important economic factor in terms of the farmers' future was the lack of adequately subsidized agricultural credit. Credit was actually available for food crops, for the maintenance of coffee, and a limited amount of

credit for planting rubber. However, the interest rates placed these loans beyond the realistic options of most farmers. In 1984, operating capital for coffee and food crops was available at an interest rate of 125 percent (over a 10 month period). The farmers did not respond to this level of subsidy which was approximately 100 percent below the rate of inflation in Brazil in 1984. Their experience with triple-digit inflation in recent years left them wondering what the loan money would buy six months hence. Borrowing was a most uncertain option. In fact, local extensionists were advising farmers to avoid borrowing money, especially for food crops, if at all possible.

The high costs of farm inputs relative to farm prices were a factor which was directly relevant to the level of technology employed and, consequently, had various economic and ecological consequences. This factor was secondary to farm prices in that farmers' decisions not to purchase certain farm inputs was a rational choice based upon the expected cash returns on production. Investment of cash in pesticides, herbicides, fungicides, or fertilizers was understandably considered a major risk, particularly for application to food crops. The great majority of the farmers did not make use of such inputs, in spite of the fact that their potential value was widely recognized. The impact of non-use on household income was clear; lower yields, lower quality, and lower income--especially in the case of coffee, which became increasingly susceptible to pests with the

failure to use pesticides. But there is also a greater impact which perhaps has more important consequences for the future. Given the prevailing technology, which survives for lack of other alternatives and not for lack of understanding, the farmers are forced to degrade the basis of their own reproduction as farmers. The typical pattern of land use is to clear and burn the forest, plant food crops (rice, beans, corn, manioc, and others) for one to three harvests and convert the area to pasture. Apart from the less extensive areas planted in coffee and rubber this is the major pattern. Tree crops are believed to be the most appropriate form of agriculture for these soils but these farmers are highly unlikely to expand such areas without additional, subsidized credit. Moreover, many farmers stated that they were contemplating the eradication of their coffee trees. Clearly, they cannot adopt more viable farming systems that are sustainable in the long term without external aid and intensive research. Ecologically and technologically such systems may be possible after all. Recent research elsewhere in Amazonia is beginning to show signs of progress in the area of continuous cropping systems (cf. Nicholaides et al. 1984).

The most important ecological factors related to the performance of small-farm household's in Ariquemes were soil potential and the invasion of weeds and natural pests. The farmers could, theoretically, respond to these problems through short-term strategies or through long-term

strategies. They chose the former because it was their only real alternative given various economic constraints.

The low to moderate fertility of the soils and their susceptibility to erosion and leaching were given. The farmers' predominant response to these factors was a system of cultivation which simply took in more land as old land was exhausted. As noted earlier, old land was converted to pasture after only a few harvests of annual food crops, new land was cleared, and the process continued in this fashion. In a few cases, however (less than 5 percent of the household's surveyed), farmers cultivated the used land again after a fallow period of 5 or 6 years--certainly not enough time to permit the soil fertility regeneration process. An economically viable fallow period for slash and burn agriculture in the Amazon is estimated at 17 to 20 years (Nicholaides et al. 1984:343). The strategy of the few farmers who replanted land after a shortened fallow period must be considered a short-term response to the ecological constraints of the tropical rainforest soils.

In most of the area, surmounting these obstacles would require the use of fertilizers and other intensive methods of soil conservation. While farmers were generally aware of these problems, very few used fertilizers--and only on rice, household vegetable gardens, and rubber. Fertilizers also were used only as part of a short-term strategy to increase yields or in the case of rubber, because the financing program provided for, and required their use. Fertilizers

The ecological obstacles to small-scale production in Ariquemes were dealt with by technological adaptations that were destructive and non-viable in the long-term. As noted by Schmink and Wood (1984:308), possible solutions to these problems have not been adequately investigated: "If there is to be any chance for small farmers to achieve stability of production and at the same time preserve the ecological integrity of the Amazon forest, new systems of land use must be devised. Few such models have been systematically explored from a long-term perspective."

In the case of Rondonia, a serious attempt was never made to carry out and apply research at the local level, nor was there an adequate effort to advise and supervise the farming strategies of the small-farm owners. Although a major survey of small farms and farming problems throughout Rondonia was undertaken and published in 1980, the response in terms of policy and action was not commensurate to the farmers' needs (cf. Secretaria de Estado da Agricultura de Rondonia 1980; Comissão Estadual de Planejamento Agrícola de Rondonia 1983; Manquero and Bottino 1984). Extension agents, for example, were primarily used to perform functions for the banks and were charged with an unrealistic number of farmers per extension agent--approximately 300 farmers each, much more if sharecroppers and others are included. Experimental "production models", based on various combinations of crops and techniques, that were elaborated by Rondonia's Department

of Agriculture were never applied, on any scale, in Ariquemes.

In summary, ecological factors which affect the economic viability of small-farm settlement can only do so in the absence of a sustainable technological response. In other words, the ecological impact on small-farm settlement is in large part a question of access to technology. Access to technology is essentially a question of economic factors--farm prices, production and reproduction costs, etc. Access to technology is also a matter of how the society has distributed specific resources for research and development. For example, between 1981 and 1985 the Program for Integrated Rural Development allocated approximately \$17,757,000 U.S. for rural extension, agricultural research, and ecological studies. The population to benefit from the program was calculated at about 30,000 families in Rondonia and parts of Northern Mato Grosso (World Bank 1981:88). In contrast, between 1981 and 1983 alone, the federal government disbursed fiscal incentives totaling more than \$1,134,000 U.S. to no more than 15 private enterprises in Rondonia (Superintendencia do Desenvolvimento da Amazonia 1983:18). These funds were distributed primarily to industrial concerns such as saw mills, processing plants for coffee and rice, and cassiterite mines (Superintendencia do Desenvolvimento da Amazonia 1983:23). Considering the larger picture, it would seem that the ability of Rondonia's small-farm population to overcome ecological obstacles will in large part depend on

development priorities defined in bureaucratic and political spheres to which the farmers themselves have little access.

Structural Factors

The peasant colonist does not migrate alone. Nor does migration take place in a social vacuum. Rather, colonists who move into new areas reproduce the peasant social relations of production on the frontier. In effect, the colonist does not create a new free space on the frontier; he simply enlarges the geographic context in which peasants are dominated.
[Dominguez 1984:405]

In this observation, Dominguez strikes the core of economic development on the frontier. The frontier is more than a harbor of untapped resources ready for the taking and more than a new population of hardy pioneers. The frontier is a social phenomenon and brings with it, most importantly, a social history. One cannot remove the frontier from its own origins and expect to understand, much less attempt to guide, its economic, social, and political formation.

Based on an analysis of resource distribution in Ariquemes, Hebette and Azevedo (1982:42) come to this conclusion:

What emerges in Ariquemes is a class of professionals and civil service officials, the improvised landowners of medium and large holdings, which imposes itself upon a class of direct producers, the small farmers. Is this a new order--or the expansion of one already consecrated in Brazil? Is this production or reproduction of a social structure? In truth, what is new today in Rondonia is only the particular expansion of an order which rules in other parts of Brazil. All that is new is the extension of capitalist relations of production, deeply rooted in other regions, where they co-exist with peasant forms of production.
(translation mine)

From this perspective, the class of small-farm owners emerges as a victim of development policy and not as a beneficiary. The model of land distribution and settlement imposed by INCRA in Ariquemes was merely the first step in a plan which duplicated the entrenched inequalities characteristic of rural Brazilian society. Only the place had changed, the players and the rules remained the same. The landless poor who were granted new land in Ariquemes were also granted a new rung at the bottom of the social ladder. They were granted few real chances to rise above it. The social stratification which was literally engineered in the planning of settlement must itself be considered an obstacle to small-farm colonization in Ariquemes.

It would be an oversimplification to view social and economic relations in Ariquemes as a "zero-sum" game in which the medium-sized or larger farm's gain was the small farm's loss. There was a growing class of landless migrants providing labor to the large plantations and medium-sized cacao farms. It was this class that the capitalist producers exploited most directly. The presence of landless labor was an important factor in the evolution of production and social relations in Ariquemes. This was so because exploitation of the landless class in the workplace strengthened the relative economic position of the capitalist producers who, in fact, exploited the small-farm class as well but through other mechanisms.

Specifically, exploitation of the Marechal farmers by the town-based farmer/entrepreneurs of Burareiro, Theobroma, and Seringal Preto, operated primarily through the marketplace, through the local bureaucracy, and through the political structure. This was, indeed, a significant relationship with significant consequences for the small-farm class.

The merchant class in Ariquemes, which is quite indistinguishable from the Burareiro class, derives the greatest benefit from the local process of economic and demographic growth. The merchants play a key role in the local economy as suppliers of staple commodities, farm inputs. One must include among this class the pharmacists and medical professionals, as well, for they provide perhaps the most crucial commodity, that is, health care. While commerce was not in all cases an exploitative relationship between merchant and consumer, it did represent a mechanism through which the cash income of the small-farm class was captured by the merchant/landowners of the town.

The greatest exploitation of the small-farm class was clearly in the transaction of the farmers' produce. The local middlemen, all of them major landowners, accumulated substantial wealth on the basis of commerce with small-scale producers. The low level of competition in this market--there were only four coffee buyers and six rice buyers in Ariquemes--contributed to the middlemens' ability

to maintain prices at low levels, sometimes even below government set minimum prices.

The bureaucratic and political structures of local government also could be viewed as a sphere within which the small-farm class was exploited. These structures or institutions did not themselves exploit the small-farm class, in the sense of direct or indirect capture of the value of the farmers' production. Exploitation occurred in the sense that particular members of the merchant/landowner class were able to protect private economic and political interests through these channels more readily than could the members of the small-farm class.

The small-farm class was effectively excluded from influence in this sphere except when such participation was politically expedient to the dominant class. The use of local government agencies, for example, as mechanisms for the distribution of development resources--roads, road repairs, health posts, schools, service centers, rural extension, etc.--was the basis for building local political constituencies by local politicians and dominant political parties. But, on the whole, the benefits accruing to the small-farm class through this process were sporadic, limited, and fleeting. Such "concessions" on the part of the local leaders normally last only as long as is necessary to achieve the political ends to which they were directed. Schools, health posts, and other projects started and supported by

political candidates before the elections in 1982 were in many instances abandoned after the elections were over.

The farmers often expressed their awareness of this process by stating that "the government will help us out--during the next election". Another of the farmers' expressions of this relationship between politics and support for the small-farm class had to do with the POLONOROESTE project: There was a widespread rumor among the Marechal farmers about a certain individual, "Paulo Orestes" who was financing the construction of roads and service centers. He was the most curious man they had heard of, said the farmers, because he never comes around to ask for votes!

The politically dominant class in Ariquemes was composed of Burareiro landowners and other town residents with large landholdings and commercial interests. They consistently used the bureaucratic structures to protect and advance their economic, as well as their political position in the local hierarchy. This was the case in regard to the allocation of resources for road maintenance. It was no coincidence that the best kept sideroad in all of the rural area was the one with the highest concentration of landowners who were also political and bureaucratic leaders in the community. Local leaders also applied their influence to maintain better access to rural credit which in some instances was diverted, in large quantities and with total impunity, to commercial interests. The political elite of the community was also able to seize control of leadership in the rural service centers,

such as Alto Paraiso, in an effort to protect their political and commercial interests.

The nature of local social relations and their connection to political and bureaucratic networks had crucial implications for the implementation of development programs at the local level. For example, in spite of an attempt by authorities at the state level to maintain a tight-fisted control over the resources of the Program for Integrated Rural Development, local networks prevailed. These resources and the programs they supported were not immune to intervention on the part of the local political and economic elite. If the dominant local class was not able to define the application of these development resources, they were at least able to block quite effectively their application to programs that this class did not favor. This was definitely the case in regard to the "rural development commissions". The local elite perceived a threat to their economic and political interests when the commissions became a basis for the organization of a class based association among the small-farm owners. Rapid measures were taken to dismiss the civil servants who were responsible for this part of the Program for Integrated Rural Development and the local authorities attempted to take over and defuse the small-farm organization. In a few instances commission leaders were alleged to have been bribed to spread false allegations against the small-farm association and to promote the rival cooperative.

One must consider class structure at the local level when discussing small-farm colonization and in devising development policy and policy implementation. Ariquemes provides a vivid example of the ways in which apparently sound development policy can be manipulated to the ends of local elites. What takes place in Ariquemes as a result of the Program for Integrated Rural Development is less likely to be the "consolidation of settlement". It will more likely continue to be the consolidation of the local upper class.

Will frontier expansion in Rondonia merely "enlarge the geographic context in which peasants are dominated"? (Dominguez 1984:405) Given the prevailing conditions in the small-farm sector in 1984, the continuing influx of landless migrants, and the general orientation of rural development policy in Brazil, I believe this is a probable outcome. In Ariquemes, the small-farm owner faces many constraints. If not addressed, these obstacles can only lead to the stagnation or progressive demise of the small-farm economy. On the other hand, capital intensive agriculture is favored by conditions which are evolving in Rondonia. The growing labor force comprised of migrants arriving by the thousands is no doubt beneficial to such enterprise. Capitalism in agriculture will profit from the resulting downward pressure on rural wages. The overall distribution of resources and income is likely to become increasingly polarized. Moreover, the improvement of the BR-364 highway has led to a rapid increase in the exchange value of land, another incentive to

attract capitalist enterprise. At the same time, sale of the land becomes an increasingly attractive option to farmers in economic difficulty.

At the national level economic policy is increasingly subject to external pressures which have resulted in reduced support for the agricultural sector. This pressure emanates from multi-lateral development banks as a result of Brazil's massive foreign debt and skyrocketting inflation. The actions of these international organizations have become contradictory from the perspective of rural development on the frontier. On the one hand, the World Bank has financed the opening up of Northwest Brazil and lends limited support to small-farm settlement. At the same time, the International Monetary Fund applies pressure on the national government to adopt measures of "economic austerity"--measures that translate into less overall support for the agricultural sector. This not only increases the difficulties for those already settled in Rondonia, but it contributes also to the very conditions in other agricultural regions that are responsible for the increasing rate of in-migration.

It is clear that economic, ecological, demographic, and social conditions indicate a trend towards the replication of rural inequalities characteristic of the major sending regions in the Center-South. Nevertheless, there are measures which could be taken to minimize social inequalities and environmental destruction. Implementing such measures

would depend, of course, on a policy of Amazonian development which respected the long-term potential of national resources in regions such as Rondonia. So far the orientation of development policy in the Amazon has been guided by the short-term economic interests of particular classes in Brazilian society. If, and only if, the long term national interests are given due consideration will Rondonia escape progressive underdevelopment.

First, it must be acknowledged that the root causes of underdevelopment in the Amazon lie outside the region in structural forces that have impelled the migration of the landless poor in vast numbers. In the continued absence of real efforts to reform the agrarian structure of Brazil there can be no solution to the growing problems of frontier expansion in Amazonia. Propaganda diffused through the national media concerning rapid economic growth in Rondonia contributes to the increase in migration to the region. Through the media Rondonia is deceptively represented as a viable option to the unemployed and underemployed of other regions, at their expense, at the expense of non-renewable natural resources, and at the expense of indigenous populations (cf. National Resource Defense Council 1984; Millikan 1984). Realistic alternatives for employment such as the redistribution of unproductive or underproductive lands in the sending regions, or other efforts to create industrial employment in those regions could be considered. Such alternatives would, in the long run, prove to be better

investments for international lending institutions and in recent years these institutions have more than proved their capability to intervene in Brazilian national development policy.

Second, at the regional level, efforts to devise and support environmentally sound, small-scale cropping systems could be reinforced and combined with agricultural support policies--price supports, improved commercialization networks, improved rural credit--to increase the economic viability of such systems. Without such research and support, the farmers already settled in Rondonia will not find the means to adopt sustainable farming strategies.

Third, new methods of disbursing development resources and organizing community development projects must be devised to minimize the abuse of these resources and the manipulation of these projects by local elites. Greater financial and administrative support could be offered directly to grass roots community organizations such as the small-farm Associations that have recently developed in Rondonia.

Finally, the redistribution of large, unproductive landholdings within the region would constitute a more rational alternative to the opening of new colonization projects in areas that are as yet relatively undisturbed. A major reorientation of development policy at the regional and national levels is required. Otherwise, the course of development in Rondonia will simply be to expand and aggravate social problems and further compel an irrational

destruction of national resources that is already well underway.

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John Francis Wilson was born in Toronto, Ontario, Canada, on November 30, 1955. He moved to McLean, Virginia, in 1959 and later to the Dominican Republic in 1965. He returned to Virginia in 1968 where he graduated from McLean High School in 1973. In 1977 he received his B.A. in Anthropology from the College of William and Mary in Williamsburg, Virginia. Since 1978 he has lived in Gainesville, Florida. He earned his M.A. in Anthropology in 1981 at the University of Florida, writing his M.A. Thesis on the subject of Brazilian settlement in the eastern border region of Paraguay. During the summer of 1982 he made a brief field trip to Rondonia and returned to Brazil in April of 1983. His major interests in anthropology are economic anthropology, social stratification, social change in modern societies, economic development, and anthropological theory. After completion of the Ph.D he expects to pursue a career in teaching and research, and/or a non-academic career in the area of economic development.

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